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IMPLEMENTATION COMPLETION AND RESULTS REPORT

ON A

GRANT FROM THE GLOBAL ENVIRONMENT FACILITY (TF012908)

IN THE AMOUNT OF US\$ 11.69 MILLION

TO THE

MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES (SEMARNAT)

FOR THE

SUSTAINABLE PRODUCTION SYSTEMS AND BIODIVERSITY PROJECT

June 20, 2019

Agriculture Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2018)

Currency Unit	=	US Dollar
MXN 19.65	=	USD 1.00
US\$ 0.051	=	MXN 1.00

FISCAL YEAR
July 1 – June 30

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ABBREVIATIONS AND ACRONYMS

AB	Biodiversity-friendly (<i>Amigables con Biodiversidad</i>)
BCR	Borrower Completion Report
CATIE	Tropical Agricultural Research and Higher Education Center (<i>Centro Agronómico Tropical de Investigación y Enseñanza</i>)
CDI	National Commission for Indigenous Peoples (<i>Comisión Nacional para el Desarrollo de los Pueblos Indígenas</i>)
CGCRB	General Coordination for Biological Corridors and Resources (<i>Coordinación General de Corredores y Recursos Biológicos</i>)
CONABIO	National Commission for Knowledge and Use of Biodiversity (<i>Comisión Nacional para el Conocimiento y Uso de la Biodiversidad</i>)
CONAFOR	National Forestry Commission (<i>Comisión Nacional Forestal</i>)
CONANP	National Commission for Protected Areas (<i>Comisión Nacional de Áreas Naturales Protegidas</i>)
CPS	Country Partnership Strategy
EFA	Economic and Financial Analysis
ENBioMex	National Biodiversity Strategy of Mexico (<i>Estrategia Nacional sobre Biodiversidad de México</i>)
GEF	Global Environment Facility
GTL	Local Technical Groups (<i>Grupos Técnicos Locales</i>)
GoM	Government of Mexico
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IRR	Internal Rate of Return
IUCN	International Union for Conservation of Nature
MBC	Mesoamerican Biological Corridor
M&E	Monitoring and Evaluation
MTR	Mid-term Review
NPV	Net Present Value
PA	Producer Association
PAD	Project Appraisal Document
PDO	Project Development Objective
PG	Producer Group
PIU	Project Implementation Unit
SADER	Ministry of Agriculture and Rural Development (<i>Secretaría de Agricultura y Desarrollo Rural</i>)
SAGARPA	Ministry of Agriculture, Livestock and Rural Development (former) (<i>Secretaría de Agricultura, Ganadería, Desarrollo Rural</i>)
SEMARNAT	Ministry of Environment and Natural Resources (<i>Secretaría de Medio Ambiente y Recursos Naturales</i>)
SPSB	Sustainable Productive Systems and Biodiversity
TA	Technical Assistance
TPS	Sustainable Productive Landscapes (<i>Territorios Productivos Sostenible</i>)
UNAM	National Autonomous University of Mexico (<i>Universidad Nacional Autónoma de México</i>)
USD	United States Dollar
UTT	Technology Transfer Units (<i>Unidad de Transferencia Tecnológica</i>)

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P121116	Sustainable Production Systems and Biodiversity
Country	Financing Instrument
Mexico	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
Ministry of Environment and Natural Resources (SEMARNAT)	National Commission for the Knowledge and Use of Biodiversity (CONABIO)

Project Development Objective (PDO)

Original PDO

To conserve and protect nationally and globally significant biodiversity in Mexico through mainstreaming biodiversity-friendly management practices in productive landscapes in priority biological corridors.

**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
TF-12908	11,688,182	11,688,182	10,798,143
Total	11,688,182	11,688,182	10,798,143
Non-World Bank Financing			
Borrower/Recipient	19,200,000	6,052,704	7,117,493
Total	19,200,000	6,052,704	7,117,493
Total Project Cost	30,888,182	17,740,886	17,915,636

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
30-Aug-2012	28-Feb-2013	25-Sep-2015	31-Aug-2017	31-Dec-2018

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
25-May-2017	5.50	Change in Results Framework Change in Loan Closing Date(s) Change in Implementation Schedule

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	12-Dec-2012	Satisfactory	Satisfactory	.13



02	22-Jun-2013	Satisfactory	Satisfactory	.62
03	30-Dec-2013	Satisfactory	Moderately Satisfactory	.83
04	06-Jul-2014	Satisfactory	Moderately Satisfactory	.99
05	17-Dec-2014	Moderately Satisfactory	Moderately Satisfactory	1.47
06	25-Jun-2015	Moderately Satisfactory	Moderately Satisfactory	2.48
07	24-Dec-2015	Moderately Satisfactory	Moderately Satisfactory	2.98
08	30-Jun-2016	Moderately Satisfactory	Moderately Unsatisfactory	3.38
09	21-Dec-2016	Moderately Satisfactory	Moderately Unsatisfactory	4.59
10	26-Apr-2017	Moderately Satisfactory	Moderately Satisfactory	4.93
11	13-Nov-2017	Moderately Satisfactory	Moderately Satisfactory	6.39
12	03-Jun-2018	Moderately Satisfactory	Moderately Satisfactory	7.88
13	23-Dec-2018	Moderately Satisfactory	Moderately Satisfactory	10.84

SECTORS AND THEMES

Sectors

Major Sector/Sector (%)

Agriculture, Fishing and Forestry 81

Agricultural Extension, Research, and Other Support Activities 58

Public Administration - Agriculture, Fishing & Forestry 23

Industry, Trade and Services 19

Agricultural markets, commercialization and agri-business 19

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)



Finance	15	
Finance for Development	15	
Agriculture Finance	15	
Urban and Rural Development	28	
Rural Development	28	
Rural Markets	15	
Land Administration and Management	13	
Environment and Natural Resource Management	56	
Renewable Natural Resources Asset Management	46	
Biodiversity	33	
Landscape Management	13	
Environmental policies and institutions	10	
ADM STAFF		
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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. **When the Sustainable Productive Systems and Biodiversity (SPSB) Project – a free-standing Global Environment Facility (GEF) operation - was approved in 2012, a top government priority was to align its agricultural production and environmental conservation objectives.** At the time, Mexico had rebounded from the impacts of the global economic crisis of 2008 to 2009. The impacts of the crisis on the agriculture sector were less pronounced, with a contraction in growth of -2.0 percent compared to -6.0 percent experienced by the overall economy, and by 2011 the sector was growing at a robust rate of 2.8 percent. With 50.0 percent of Mexico's land under agricultural production and over half of all species being found in productive landscapes,¹ there was a need to boost the direct economic value of agricultural land, while maintaining the critical ecosystem services they provided.

2. **An integrated landscape approach for conserving natural resources while optimizing food production and income generation opportunities was deemed essential at the design stage.** There was demonstrated scope for working with producers to help reduce fragmentation of habitats, increase socio-economic connectivity and ensure long-term sustainability of productive landscapes. In addition, a deficient incentive framework for sustainable forest use, insufficient knowledge and capacity, and lack of access to markets were identified as drivers of deforestation and land degradation in Mexico where 70 percent of forests belonged to rural communities. Therefore, forest conservation considering land use types and the social and economic needs of local inhabitants was vital for achieving positive environmental and socio-economic outcomes. This entailed scaling-up approaches to improve local territorial governance, planning and management linking productive investments with environmental outcomes.

3. **Rationale for the Project.** The Bank brought global expertise and experience from landscape projects and broad-based territorial approaches for integrating sustainability and climate change with productive and profitable economic activities. The Bank's comparative advantage, in partnership with the GEF, stemmed from its previous engagement with Mexico on a series of largely grant-supported investments focused on environmental sustainability including biodiversity conservation. Bank-supported operations had prompted the creation of the Natural Protected Areas Commission (CONANP) and the National Protected Area Trust Fund. The Project under review was linked directly to the GEF/UNDP Mesoamerican Biological Corridor Project (1996-2006) and GEF/ International Bank for Reconstruction and Development (IBRD) Mexico Mesoamerican Biological Corridor Project (2002-2009), two operations also focused on mainstreaming biodiversity conservation in productive landscapes. Further strengthening its rationale, the Project was aligned with the Bank's Mexico Country Partnership Strategy (CPS) FY2008-2013 (No. 80800-MX) and the CPS Performance and Learning Report (PLR) (No. 104752-MX) through its focus on climate change, thereby contributing to Mexico's higher-level objectives. The Project was financed by a GEF Grant from the World Bank-led GEF Strategic Investment Program and was consistent with GEF-4 Biodiversity Strategic Objective 2 for mainstreaming biodiversity in productive landscapes/seascapes and sectors. It was also aligned with the Strategic Program 5 (under Objective 2) of GEF-4: fostering markets for biodiversity-friendly (*amigables con biodiversidad* – AB) goods and services, and with the Strategic Program of GEF-5: strengthen capacities to produce AB goods and services.

¹ Mexico was classified as one of the top five most megadiverse countries representing 12 percent of global biodiversity in just 1.5 percent of global land surface containing biodiversity. Mexico's Mesoamerican Biological Corridor was considered a global biodiversity hotspot - among the most threatened in the world - providing habitat for many species either threatened or at risk of extinction. At appraisal, Conservation International rated ecosystem destruction, biodiversity loss and land degradation threats as high in Mesoamerica and identified the need for significant work to scale up protection measures to address threats.



Theory of Change (Results Chain)

4. Since the Theory of Change (ToC) was not presented diagrammatically in the project appraisal document (PAD), the implementation completion report (ICR) has constructed it based on appraisal information. The SPSB project sought intervention at three levels: (i) inter-regional, to promote cooperation across countries of the Mesoamerican Biological Corridor (MBC), and, nationally within six key Mexican institutions;² (ii) clustered Producer Association (PA),³ to strengthen the capacities of second tier organizations to expand market opportunities and monitor production improvements; and, (iii) producer, through training and other incentives helping producers to adopt AB production. Coordination at the regional and producer levels is discussed below, followed by the ToC (Figure 1), which illustrates the project's activities, outputs and outcomes.

5. **Inter-regional level.** Project activities were coordinated by the Project Implementation Unit (PIU) housed within the Coordination of Corridors and Resources (CGCRB - *Coordinación General de Corredores y Recursos Biológicos*) of CONABIO. The PIU coordinated all regional knowledge exchange activities and inter-institutional cooperation, the goal being to strengthen institutional coordination frameworks/capacities and promote knowledge exchange on territorial approaches for advancing AB development in productive systems. Importantly, the mainstreaming of sustainable productive landscapes required the effective/efficient collaboration of CONABIO, the ministries of environment and agriculture, partner agencies and Mesoamerican countries (see ToC CA1).

6. **Producer Association level.** Activities at this level sought to strengthen PAs by reinforcing their links with networks of producer groups (PG) and improving connections between PAs and other economic agents in their respective value chains to generate market opportunities for trading AB products. Critical assumptions for success at this level included: buyers' willingness to reward AB production (CA2); and, PAs' ability to strengthen their networks and promote AB production among PGs and beneficiary producers (CA3). These assumptions were crucial to mainstreaming AB production and were measured in PDO outcomes through sales of AB products (see ToC).

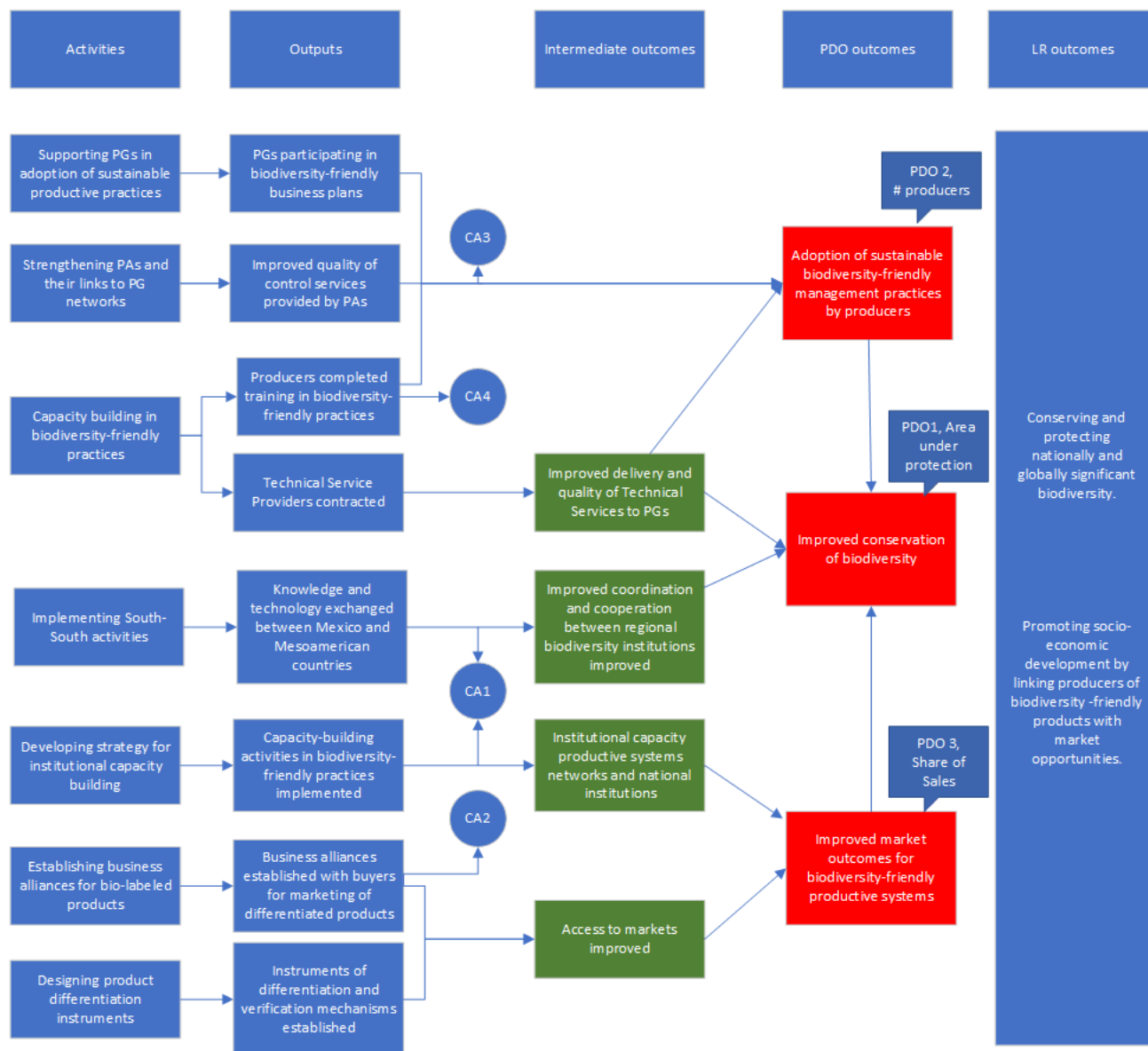
7. **Producer Group and Beneficiary Producer level.** Here, project activities sought to promote sustainable investments in productive systems and related management activities, and to provide technical assistance to rural producers living within the selected sites, thereby improving their livelihoods. Success would be captured through outcomes centered on beneficiaries' land area brought under AB practices and number of beneficiaries adopting such practices. A critical assumption at this level was that individual producers would be willing to adopt AB practices without direct financial incentives for changing their behavior from conventional practices, and to take on the investments themselves based on project-supplied technical training and knowledge (CA4).

² Ministry of Environment (*Secretaría de Medio Ambiente y Recursos Naturales*, SEMARNAT); Ministry of Agriculture (*Secretaría de Agricultura y Desarrollo Rural*, SADER, formerly SAGARPA); National Commission for the Knowledge and Use of Biodiversity (*Comisión Nacional para el Conocimiento y Uso de la Biodiversidad*, CONABIO); National Forestry Commission (*Comisión Nacional Forestal*, CONAFOR); National Commission of Protected Areas (*Comisión Nacional de Áreas Naturales Protegidas*, CONANP); and, National Institute of Indigenous Peoples (*Comisión Nacional para el Desarrollo de los Pueblos Indígenas*, CDI).

³ Producer Associations (PA) are legally constituted organizations integrating producer grouped based on economic/productive objectives. Producer Groups (PG) are social sector organizations as defined by Law of Social and Solidarity Economy: Ejidos; Communities; Workers' Organizations; Cooperative Societies; and, Companies belonging to workers, i.e., all forms of social organization for production, distribution



Figure 1. Theory of Change constructed for ICR from Documents at Appraisal



Project Development Objectives (PDO)

8. The PDO as stated in the PAD was to “conserve and protect nationally and globally significant biodiversity in Mexico through mainstreaming biodiversity-friendly management practices in productive landscapes in priority biological corridors.” This is aligned with the Grant Financing agreement.

and consumption of goods/socially necessary services. Beneficiary PGs had to be integrated into associations or networks of producers.



Key Expected Outcomes and Outcome Indicators

9. The key expected outcome was generation of local and global benefits by mainstreaming the sustainable use of natural resources in biological corridors within tropical landscapes of Mesoamerica. Local benefits were expected through production and market improvements based on identity/origin recognition, market differentiation and product/process quality systems; and, global benefits through implicit environmental services and conservation practices promoted in a region with globally important biodiversity. The PAD defines all key terms in footnotes 25-28.

10. The key Outcome Indicators stated in the PAD were:

- Land area (in Ha) brought under enhanced biodiversity-friendly production systems in biological corridors (Target 34,500 Ha).
- Number of producers applying biodiversity-friendly production practices (Target 6,900).
- Share of sales of goods and services produced under biodiversity-friendly practices (Target 12 percent).

11. The PDO technically consists of PDO text up to “through.” Improved conservation of biodiversity - for which the proxy is PDO Indicator “land area under enhanced biodiversity-friendly production systems” - is an accepted core GEF indicator. Other key outcomes at PDO level are producers’ adoption of biodiversity-friendly practices, and improved market outcomes for the resulting products.⁴ All PDO outcomes capture/are aligned with the broader objective of conserving and protecting nationally and globally significant biodiversity in Mexico. (See also Monitoring and Evaluation (M&E) Design).

12. **Targeted Beneficiaries:** At appraisal, direct beneficiaries were defined as around 6,900 smallholder producers organized in legally constituted PGs linked to legally constituted PAs across production systems in nine targeted biological corridors (see PAD footnote 25) spanning six states of Mexico (Yucatan, Quintana Roo, Campeche, Oaxaca, Tabasco and Chiapas). Productive systems included silvo-pastoral, coffee production, cocoa and honey production, wildlife use and eco-tourism, and forestry.

Components

13. **Component 1: Sustainable Production Systems and Biodiversity Mainstreaming** (Estimated total cost US\$16.86m of which GEF Grant US\$4.59m (27.2 percent), Government US\$10.70m (63.5 percent), and Beneficiaries US\$1.57m (9.3 percent)). **Sub-components:** (i) 1.1: Assisting PGs in the use of sustainable production practices. This financed matching grants to eligible PAs with approved business plans for investments in subprojects for the production/processing of AB goods and services, shifting farming away from conventional to AB production practices. Producers were required to contribute around 30 percent of the total value of their subproject from beneficiary PG or PA own funds (both in-kind and cash); (ii) 1.2: Training through Technical Service Providers (TSPs). Training and technical assistance (TA) to beneficiary PGs (members of PAs) to adopt and use AB production practices. Local Technical Groups (GTL) would train PGs and PAs to adopt and use such practices. Technology Transfer Units (UTT) would be established to conduct research, development and innovation in sustainable production practices with one UTT for each productive system, transferring knowledge to the GTLs, responsible in turn for building capacity in PGs and PAs.

14. **Component 2: Producer Associations and Biodiversity-Friendly Market Initiatives** (Estimated total cost US\$8.01m of which GEF Grant US\$3.6m (44.9 percent), Government US\$3.7m (46.2 percent), Beneficiaries US\$0.71m

⁴ The GEF normally focuses on two issues: biodiversity in protected areas and biodiversity in productive landscapes, accounting for the wording of the PDO, i.e., without explicit mention of productive/market objectives.



(8.9 percent)). **Sub-components:** (i) 2.1: Strengthening PAs and Networks of PGs. PAs would be strengthened to promote AB practices among member PGs and producers, implement quality control for goods and services, and provide funding for marketing activities; and, (ii) 2.2: Establishing Business Alliances for Bio-labeled Products. This financed TA to establish collaborative and contractual arrangements (business alliances) between buyers (brokers, exporters and large retailers) and PAs. Technical assistance included market studies and plans for product promotion using biodiversity labeling, participation in exhibitions and trade fairs, and establishing networks potentially able to reach national and international end markets. Activities under 2.1 and 2.2 were implemented via business subprojects with each PA. Financing supported the execution of operational plans (averaging 3-4 plans/PA over the project lifespan).

15. **Component 3: Institutions, Labels, and South-South Cooperation.** (Estimated total cost of US\$4.6m of which GEF Grant US\$2.3m (50 percent) and Government US\$2.3m (50 percent)). This financed the development and strengthening of the project's transversal aspects: institutional frameworks and associated capacity to promote producers' use of AB production systems; and, promotion of strategic public-private partnerships, and collaboration and knowledge-sharing across institutions of MBC countries. **Sub-components:** (i) 3.1: Strategy for developing institutional capacities. This financed PA performance and business development (through innovation and technology transfer, financial services, eco-labeling and verification of quality assurance, strategic marketing and public/private networking). Consulting services, training and study tours would also strengthen the TSPs; (ii) 3.2: Designing and using market differentiation tools. This focused on a strategy for market differentiation of AB products through standards and differentiation instruments under third party verification mechanisms; and, (iii) 3.3: Promoting partnerships and South-South cooperation. This included study tours, events and workshops for PA members to develop a Mesoamerican regional program for rural sustainable production.

16. **Component 4: Project management and monitoring.** (Estimated total cost US\$3.7m of which GEF Grant US\$1.2m (32.4 percent) and Government US\$2.5m (67.6 percent)). This component financed consulting services, and operational costs for project management, supervision, procurement, financial management, and monitoring and evaluation.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

Revised PDOs and Outcome Targets

17. The PDO was not revised. A Level 2 Restructuring in May 2017 adjusted the project's Results Framework by increasing the end-of-project (EOP) indicator target values for project scale. See other changes from restructuring in paras 18 and 19. Target values for all indicators of project scale were revised to adequately reflect and measure impact, resulting in proportional increases in the targets for three PDO (and three Intermediate) Indicators. See table, Annex 1B.

Revised PDO Indicators

18. The wording of the PDO Indicators was not revised. However, the Mid-term Review (MTR) noted a discrepancy between the definition of two Intermediate Indicators and market dynamics observed during implementation. The wording was changed from "bio-labeled" to "differentiated"⁵ products/instruments to reflect the broader market differentiation of products to which the project contributed, of which a "bio-label" was only one type. These revised definitions captured all forms of market differentiation. Revisions were as follows: (i) the original indicator (2.2) "Business alliances with buyers for marketing of bio-labeled products are established" was adjusted to "Business alliances with buyers for marketing of differentiated products are established;" and (ii) the original indicator (3.2) "Bio-

⁵ In this case "differentiated" still implied biodiversity-friendly product labeling where production practices for biodiversity-friendly were clearly defined, as described in the Efficacy analysis.



labels developed and in use under third party verification mechanisms” was adjusted to “Instruments of differentiation in use and with independent verification mechanism.

Revised Components

19. Components were not revised.

Other Changes

20. Restructuring extended the project closing date by 16 months from August 31, 2017 until December 31, 2018 to enable all committed project activities to be completed and results achieved. An action plan included measures to ensure closer oversight of project activities, fiduciary training and improved staffing in regional project offices to promote better oversight, faster flow of resources and improved disbursements.

Rationale for Changes and Their Implication for the Original Theory of Change

21. While the ToC was not presented explicitly at appraisal, the Level 2 restructuring mostly affected outcome targets and not the ToC as understood. The rationale for the 16-month extension was as follows:

- **Higher demand saw the number of subprojects increase from 17 to 27, requiring more time to complete legal and administrative procedures.** Outcome targets also increased for the same reason. Since several indicators were already exceeded at restructuring, and since the original targets did not account for 27 subprojects, indicator targets needed more realistic assessment given the remaining 16 months of execution.
- **Heterogeneity among producer organizations delayed progress, requiring additional time.** Factors included their different levels of consolidation, capacity, previous experience with AB practices, administrative/processing skills, internal governance and connection to markets without intermediaries.⁶ The 2015 MTR noted the causes of delay and made specific recommendation, all of which were adopted by the project team/PIU.
- **Delays and reduced allocation of counterpart funds to the project slowed the pace of disbursements, requiring more time.** Tighter government fiscal budgets in ministries such as SEMARNAT and Ministry of Agriculture and Rural Development (SADER) saw fewer resources available to the project than initially planned, delaying the transfer of these resources to the PIU. See para 59.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and rating

22. Relevance of the project PDO is rated **High** due to its sustained alignment over the project lifetime with the World Bank Group’s current Mexico Country Partnership Strategy (CPS, 2014-2019, No. 80800-MX), the recently developed Systematic Country Diagnostic and Mexico’s country economic and sector strategies. The single restructuring did not alter project scope or affect PDO relevance.

23. At closing, the PDO remained well-aligned with the Bank CPS, particularly the pillar “Promoting Green and Inclusive Growth,” by protecting Mexico’s significant natural resource capital, with a focus on forests and biodiversity. The PDO also remained consistent with the pillar “Unleashing Productivity” through the project’s support to PGs and PAs to introduce productive practices which were not just environmentally conscious but had been proven to raise

⁶ 16 of the 27 (60 percent) PAs were legally constituted through the project, and thus lacked prior experience in developing business plans collaboratively with associates. Notably, in the Peninsula of Yucatan, 7 of 8 PAs (88 percent) were newly-constituted.



producers' incomes and profitability. It was also aligned with recently-approved investments under the Sustainable Productive Landscapes Project (P159835) and the Strengthening Entrepreneurship in Productive Forest Landscapes Project (P164661) which both have similar objectives to the SPSB Project.

24. Alignment also remained firm with Mexico's National Biodiversity Strategy (ENBioMex - *Estrategia Nacional sobre Biodiversidad de México*) - especially its third axis on "productive use and sustainable management" and Action Plan 2016-2030, coordinated by CONABIO. The ENBioMex is, in turn, consistent with the global Convention on Biological Diversity (CBD), the Aichi target (2010), and the Agenda 2030 and its Sustainable Development Goals (UN, 2015). The latter promote the integration of nature in different productive sectors, as well as sustainable use and the participation of all, in the benefits derived from the use of biodiversity and ecosystem services. The PDO also remained closely linked to Mexico's current National Climate Change Strategy, Vision 10-20-40,⁷ in which a key adaptation measure is the sustainable conservation and use of ecosystems and maintenance of the ecosystem services they provide.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

25. Project Efficacy is rated **Substantial**, as the project fully achieved its objectives/intended outcomes including surpassing several outcome targets even after restructuring-related increases. PDO achievement was linked to three main outcomes directly attributable to the project, as shown in the Theory of Change: (i) improved conservation of biodiversity; (ii) adoption of sustainable AB practices by producers; and (iii) improved market outcomes for AB productive systems. Evidence for achievement of the PDO Indicators is presented below, complemented by Intermediate Outcome results and additional supporting information gleaned from diverse sources.

26. **The project achieved its successful outcomes despite receiving far less funding than anticipated from ministerial counterparts SEMARNAT and SADER.** Funding shortages were reduced by: (i) economies of scale stemming from targeting more PGs in each PA, thus reaching more producers; (ii) securing private funding from *Fomento Social Banamex* (FSB)⁸; and, (iii) taking advantage of exchange rate variations and currency depreciation, which increased the amount of funds (pesos) available to the project. When disbursement started in 2013, the MXN peso/United States Dollar (USD) exchange rate was \$12.18; it peaked at \$20.60 in 2016 and remained high until closing, at \$18.91. The average exchange rate of \$18.30 MXN peso/USD increased the project budget in pesos by over 50 percent (see Annex 3), meaning that the project could achieve its higher targets for the GEF Grant funds, even with fewer counterpart resources. See Annex 4.

27. **Project investments focused geographically in areas of nationally and globally significant biodiversity across nine priority biological corridors defined by biodiversity conservation criteria.** These spanned six Mexican states (see para 11 and Map, Annex 6). Priority sites for terrestrial conservation were selected to include: critical types of vegetation; plant richness (families and genus); protected plants, trees and cacti under Mexican norm 059; resident birds, reptiles, amphibians, mammals, and richness in species of vertebrates (see Map, Annex 6). Within these sites, municipalities with high levels of marginalization and poverty were selected as targeted beneficiary communities. Mexico is one of the top 10 most biodiverse countries in the world. By encouraging the uptake of AB practices by farmers and small/medium enterprises (SME, e.g. tourism) in priority sites, biodiversity of national and global significance was protected and conserved. See Annex 6 for additional supporting discussion, photographic and video

⁷ See http://www.semarnat.gob.mx/archivosanteriores/informacionambiental/Documents/06_otras/ENCC.pdf

⁸ The contribution of FSB is detailed under Section D, 'Mobilizing Private Sector Financing'.



evidence, and examples of marketing, verification and other key documents.

Objective outcome 1: Improved Conservation of Biodiversity (High)

28. **The main PDO Indicator used as a proxy for conservation – and a core GEF indicator - is “area brought under enhanced biodiversity protection (ha).”** Biodiversity-friendly management practices were clearly defined for each of the main production systems under the project. Practices for each production system were mapped, along with the attributes of the practices and information on how to measure a producer’s compliance with a specific practice. The lists of practices are available as follows: <https://www.biodiversidad.gob.mx/corredor/SPSB/>, where for each system a linked PDF file explains the practices. The broader practices are then linked to more detailed attributes.⁹

29. **The project brought 81,462 ha of land in productive landscapes under AB production (119 percent of the target).** The pre-restructuring target of 34,500 ha was almost doubled due to high demand. This PDO Indicator and others were monitored through the M&E system, for which PAs were required to collect and enter information. This information was verified through photos, physical forms listing producers by name and other characteristics, land location, geo-referencing, and land quantity brought under AB practices. Independent, random checks were conducted by Technical Service Providers (TSP), and the CONABIO project team visited selected sites to observe the application and registration of AB practices and to examine evidence. Third-party verification was done by CERTIMEX (*Certificadora Mexicana de Productos y Procesos Ecológicos*, national certifying entity for AB products), which assessed the use of AB practices and reported results for 24 of the 27 PAs. Following CERTIMEX consultation, contracted regional consultants monitored and verified compliance at field level using random samples. For details on the verification process see Annex 6.

30. **Economies of scale achieved in certain production systems were a driver of the project’s ability to reach the achieved coverage.** In ecotourism, forestry and honey, for example, each producer operates a larger parcel or area, increasing the land area under sustainable productive practices due to the project. Coffee PGs comprised large numbers of producers, mainly smallholders, but economies of scale were achieved by capturing/persuading more producers in each group to adopt AB practices. The table below shows the land area brought under AB practices - by productive system and producer group - by EOP. See also Annex 6, B6.15, for a description of the types and characteristics of AB production system investments.

Productive System	Cacao	Coffee	Ecotourism	Forestry	Honey	Silvo-pastoral	Wildlife	Total
Total land area under AB practices (ha)	1,401	28,914	13,741	24,428	10,757	2,202	19	81,462
Total land area under AB practices / producer (ha/p)	1.80	2.95	28.57	26.79	18.17	6.00	0.70	4.34
Number of PAs	2	6	4	8	5	1	1	27
# PGs (participating in AB business plans)	7	82	29	30	22	9	3	182

⁹ In coffee, for example, AB classification is linked to seven practices: (i) diversify shade trees, (ii) conserve and improve soils, (iii) renovate coffee plantations, (iv) conserve the habitats of wild species and flora, (v) prevent, manage and control plants and diseases with ecological techniques, (vi) perform good harvest practices and humid and dry benefits, and, (vii) adequately handle solid residues and liquids.



# producers applying AB practices	777	9800	481	912	592	367	27	12956
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31. **Biodiversity monitoring was critical within project areas to confirm protection and conservation of nationally significant biodiversity.** This was Mexico's first project to conduct biodiversity monitoring of productive systems seeking to conserve biodiversity (see Annex 1G for details/results). Some 51 areas received high level monitoring and 5 pilot PAs received equipment and the knowledge required to monitor biodiversity within their communities. Information was captured at the corridor and species levels. Producers' observation of a large share of species signals that biodiversity conservation in project communities is high. Annex 6 B9 provides photographic evidence from biodiversity monitoring of the landscape of two communities at different stages of project implementation. Further, the jaguar – as a large carnivore - is a key species, and the presence of jaguars is a recognized indicator of habitat quality for biodiversity conservation. Annex 6 B10 links to a video on the monitoring of jaguar and other species within one community of the productive landscape, providing compelling evidence for the successful protection and conservation of biodiversity within the project area.

32. **Improved regional and institutional coordination, and strategy development for building capacity in local institutions and productive systems – as per the ToC - were of pivotal importance to project results.** Subcomponent 3.3 promoted South-South partnerships and cooperation by organizing study trips, meetings and workshops for PA members, as well as regional training programs and technology transfer on sustainable rural production among regional producers. Some 23 activities were conducted, convening 918 participants from the 10 countries of Mesoamerica (producers, PA representatives, marketing and other actors involved in promoting sustainable rural production). Representatives of 16 other countries outside the region participated as partners, speakers, international experts and/or members of marketing organizations.

33. **The project sponsored important regional assemblies, results dissemination events and dialogue – some leading to new agreements – to promote biodiversity conservation in the MBC.** For more details on these activities see Annex 6. Further, several significant lines of action were developed by the project at the productive system level for mainstreaming AB practices (see Annex 6, B6.3). The project also led many workshops, knowledge exchanges, fairs, technical visits and other activities to strengthen institutional capacity and awareness in AB production systems.

Objective outcome 2: Adoption of sustainable biodiversity-friendly management practices by producers. (Substantial)

34. **The project substantially met its target for PG participation under AB business plans, contributing to the strong adoption outcome.** Some 182 PGs (93.7 percent) participated in AB Business Plans, support for which is linked directly to the adoption of such practices through the framework of investments combined with training/technical assistance embodied in those plans. See table, Annex 6.

35. **Producers applying AB production practices was a key project output.** This captured the number of new producers annually who: (i) were members of a PG associated with a beneficiary PA with a subproject; (ii) participated directly in training activities; and; (iii) were engaged in project-supported AB production according to defined criteria per productive system, and which could be monitored, reported and verified. Some 12,956 producers applied AB production practices – 98.5 percent of the increased target of 13,150 (See table, Annex 6). Project-financed productive systems enlisted new producers annually with this purpose. Sustainability of adoption of AB practices is



judged as high. Once producers made the investment in AB practices and perceived higher sales and/or higher prices for the resulting products/services, in addition to understanding the benefits of biodiversity conservation, the incentive to maintain the adopted practices strengthened. Evidence from Bank projects promoting the uptake of environmentally conservative farm practices, including recent examples in Brazil, suggests that adoption is sustainable once profitability and potential are demonstrated. See Objective Outcome 3.

36. Training programs in AB practices – vital for sustainable adoption - attracted far more producers than expected, with skilled support from the Technical Service Providers (TSP). The PDO Indicator 2 target was higher than the Intermediate Indicator because producers were not obliged to “complete” a training program to engage in production using AB practices, but to be involved in some training activities. Some 10,003 producers completed a training program in AB practices, 119.5 percent of the target. TSPs also supported innovation activities: e.g., technical units created a digital library for coffee systems and tested the chemical composition of honey and cocoa. Annex 6.

Objective outcome 3: Improved market outcomes for biodiversity-friendly productive systems (Substantial)

37. Sales of goods and services produced under biodiversity-friendly practices is also linked to the improved market outcomes for AB production and through this to the PDO’s conservation objective. Its goal is to determine the extent to which the market can be an incentive for expanded AB production. Some 24.4 percent of all sales were of products produced under AB practices (102 percent of the target). The average was estimated by taking the share reported for every PA in each productive system, averaged across all systems for a given year. For the final average, silvo-pastoral is excluded, because associated PAs did not report any sales. The SIGIEP (M&E system) revealed that in some instances the PA reported the share of sales produced under AB practices only quarterly, because of its accounting practices. Cacao, coffee and honey reported the highest gains, being systems with typically better market opportunities since they are tangible, edible products well-known and valued by aware consumers for their environmental attributes.

38. By EOP, all PAs were providing product quality control services to their networks of PGs and producers. This indicator - related to the share of sales – is an important factor in PGs’ product marketing success. All 27 PAs (100 percent of target) were providing such services to their networks by end-of-project. Further, many project activities provided contact with international and local buyers, helping to forge business alliances, another crucial element in solid sales. Some 42 business alliances with buyers for marketing differentiated products were established (132 percent of target). Annex 6 B6.5 provides further details. In addition, PAs and PGs participated in a diverse range of forums, trade shows and exhibitions to promote their AB products and services (examples, see Annex 6).

39. With respect to increased sales, the project successfully developed six differentiation instruments and established their use under third party (CERTIMEX) verification mechanisms (120 percent of target). Along with the discipline/organization imposed by PGs’ association with business alliances, market differentiation helped to increase sales. In turn, positive market demand and willingness of consumers to pay more for products with AB attributes, drove increased production in these systems which in turn, supported fulfillment of the project’s conservation goals. Annex 6 provides examples of market differentiation labeling generated by the project.

40. Rating of Efficacy: Based on level of achievement of PDO Indicators, key related intermediate results and associated information, **Efficacy is rated Substantial.** This rating is justified by the rapid increase in producers’ uptake of AB production practices mainstreaming conservation and protection, and in the area now under such practices;



the overall number of producers adopting such practices, which reached almost 100 percent of a much-increased target; and, the strong result for share of total sales derived from areas under such practices as a direct result of the project. The expectation is that the share of sales in subsequent years will continue to increase as PAs establish more alliances for selling AB goods and services. The rating is also justified by the focus of project investments in areas of national and global biodiversity significance within priority biological corridors.

C. EFFICIENCY

Assessment of Efficiency and Rating

41. Efficiency is rated **Substantial** based on: (i) an economic and financial analysis; (ii) the project's implementation efficiency; and, (iii) sustainability. Ex post cost-benefit and cost-effectiveness methods were used to determine project efficiency. The results are based on an analysis of 15 out of the 25 Business Plans selected to be representative of subprojects in each productive system financed by the Project (60 percent). See Annex 6 Table B6.15. Table: for types of investments considered in the economic and financial analysis (EFA). The full analysis including cost effectiveness is presented in Annex 4.

42. **Ex-ante Economic and Financial analysis was not provided in the PAD, but an incremental cost analysis was included.** Each subproject was financed taking into consideration a detailed business plan prepared to demonstrate the technical and economic feasibility of the proposal. An ex-ante financial analysis was included in each plan considering the total investment cost of each subproject. Further benefits were expected through wider - and less easily quantifiable - social and environmental benefits of adopting those systems. Annex 3 shows the anticipated ex-ante incremental benefit per component at baseline.

43. **The EFA shows that the project generated a positive return on investment.** The estimated internal rate of return (IRR) is 15.2 percent for a 20-year evaluation period (see Annex 4). This value is above the social discount rate of 10 percent used to evaluate the economic feasibility of public projects in Mexico. The incremental net present value (NPV) of the total project investment was estimated at US\$5.4 million with a Benefit/Cost ratio of 1.2 considering the total direct and indirect cost of the investment operation including the counterparts' monetary and in-kind contributions and taking into consideration the costing structure proposed by each Business Plan. The incremental NPV per beneficiary/year and hectare/year were determined as USD 329.5 and USD 69.2, respectively. The IRR and NPV values approximate those reported by similar projects implemented in the Latin America and Caribbean (LAC) region that mainly financed agricultural business plans promoting the adoption of good agricultural practices such as AB conservation for given productive systems. The sensitivity analysis was developed simulating the effect of the hypothetical changes in key variables on the investment return. See Annex 4 Table 3.

44. **The EFA measures only the potential economic value generated to producers from the adoption and sale of biodiversity production and does not consider the overall benefits generated from more resilient systems.** For example, losses could be more significant in the absence of improved practices (e.g. higher susceptibility to yellow rust attacks), or larger reduction in product prices affecting farmers who did not supply differentiated markets. Also, it does not measure in economic terms the environmental benefits (ecosystem services) generated at local and global levels (e.g., carbon sequestration, biodiversity conservation, pollination and soil erosion avoided).

45. **The EFA also does not measure the benefits derived from improvements in resource use efficiency.** As demonstrated in Annex 6 Table B6.15, many investments including those in physical infrastructure and equipment,



especially for ecotourism and honey systems, were made at the PA level. Thus, the EFA captures the costs of these investments in accordance with the proposed Business Plans. While this physical infrastructure is used communally, it is part of the productive systems. For example, the honey collection center is a communal infrastructure, but it benefits individual producers because it is part of the post-harvest system.

46. The aggregated cost-benefit analysis masks some distinct performance trends in project investments due to the marked heterogeneity in productive systems. The cost-benefit indicators for each productive system financed by the project are shown in the table below for a 20-year evaluation period and a social discount rate of 10 percent. Forestry and silvopastoral subprojects have high IRRs due to the important production strengths of both activities in technical, organizational and productive terms. The project significantly reinforced the production capacities of these activities especially in product diversification for AB products.

Disaggregated Economic and Financial Indicators, by Productive System

Subproject category	NPV	IRR	B/C	NPV (USD/benef/yr)	NPV (USD/ha/yr)
<i>Coffee</i>	(612,806)	6.3 percent	0.8	---	---
<i>Eco-tourism</i>	(487,246)	4.0 percent	0.8	---	---
<i>Forestry</i>	9,027,942	61.3 percent	2.9	2952.2	343.4
<i>Honey bee</i>	(1,233,858)	-4.1 percent	0.6	---	---
<i>Silvopastoral</i>	537,711	31.4 percent	1.9	1465.2	212.6

47. Coffee and eco-tourism business plans have positive IRRs, but the values are below the social discount rate. These negative results can be explained mainly by: (i) “yellow rust” disease, which significantly affected the Mexican coffee sector during project implementation. Thus, the data collected could have underestimated the productive potential of this activity in the medium and long-term as coffee shows its maximum production after the fourth year of cultivation; and (ii) a significant decline (-36 percent) of the coffee prices globally from 2014 to 2018 (see Annex 4 graph of prices). Likewise, the low IRR of the eco-tourism subprojects might be explained by the still-low number of people interested in visiting sites to appreciate biodiversity. Demand was small but evolving, thus not yet compensating for the significant investments in achieving cost efficiencies, more sustainable use of water and other resources, and biodiversity preservation. For eco-tourism, many investments were made in clean energy for centers or resorts, and energy efficient technology for which long-term benefits may not be measured in the EFA. Both activities would have a positive return on investment, valuing the ecosystem services of the productive systems.

48. The negative IRR of honey subprojects is explained by certain characteristics of this activity. (i) Individual beekeepers commercialize a significant quantity of honey and other bee products in informal markets, thus much of the honey is not aggregated and reported by the PA; (ii) The analysis did not consider the productive potential of this activity in the medium and long-term resulting from the multiplication of colonies; and, (iii) Colony Collapse Disorder (identified during project implementation) could have significantly affected beekeeping activity and honey production in certain regions. The disappearance of bee colonies in some project areas has been reported and might have caused a decline in honey productivity. Annex 4 Table 3 shows changes in the NPV of each subproject category as result of hypothetical variation in the social discount rate. The coffee, eco-tourism, forestry and silvopastoral subprojects have positive returns on investment with a hypothetical social discount rate of 3 percent. Only the honey



subprojects have no positive return on investment under any of the scenarios due to the factors previously explained. The EFA does not capture the benefits from investments made at the PA level that are not reflected through sales.

49. **Institutional implementation efficiency.** The PIU made continuous progress in reaching intended outcomes despite national budgetary and administrative restrictions that posed significant challenges to project implementation efficiency. Project restructuring provided more time, resulting in 92.4 percent of the GEF Grant being disbursed by end-project. Through CONABIO, the institutional support framework comprising Technical Service Providers, Local Technical Groups and Technology Transfer Units worked well and facilitated project implementation efficiency and quality. However, there were underlying difficulties in developing and maintaining these entities, illustrated by delayed contracting of the full planned cohort in each case, and diverse operational issues.

50. **Sustainability.** At a high level, the project's degree of inter-institutional cooperation through its strategy for institutional capacity building and south-south knowledge transfer between Mesoamerican countries is expected to foster sustainability. Careful selection of both PGs and their subproject proposals (see Annex 6) together with supporting their legal constitution as well as their technical and financial monitoring capacity, resulted in quality investments with good profitability – actual and potential - and longer-term sustainability. See also Section IVD.

51. **Efficiency Rating.** The estimated positive aggregated IRR for the project despite lower rates of return in coffee, ecotourism and honey, combined with sound implementation efficiency, and institutional coordination and cooperation, justify the Efficiency rating of **Substantial**. The implementing agency and PIU had limited ability to influence the challenges facing disbursements directly, and the agency worked diligently to improve sustainability in biodiversity-friendly production in the targeted productive systems and priority biological corridors.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

53. Overall outcome is rated **Satisfactory**¹⁰ based on the following:

- **High** ongoing relevance of the PDO based on its initial and sustained alignment with: (i) the current World Bank Group's Mexico Country Partnership Strategy (CPS, 2014-2019, No. 80800-MX); (ii) recently approved investments under the Bank's Sustainable Productive Landscapes (TPS, *Territorios Productivos Sostenibles*) Project and the Forest Entrepreneurship Project in Mexico; and (iii) cross-sectoral instruments that align national agricultural production and conservation goals through Mexico's National Biodiversity Strategy and National Climate Change Strategy.
- **Substantial** rating for Efficacy, given the level of project achievement under its objective outcomes linked to the conservation and protection of nationally and globally significant biodiversity in productive landscapes by mainstreaming and promoting the adoption of critically important practices, and the geographic location of investments in key biological corridors in Mexico.
- **Substantial** rating for Efficiency, based on positive economic and financial outcomes, strong institutional implementation capacity and moderate sustainability outlook, where the PIU was able to adapt flexibly to challenges to counterpart funding, act efficiently and build capacity given high project demand from weak/newly constituted APs.

¹⁰ The overall outcome was upgraded from MS at final ISR to S in the ICR. The final ISR stated that subject to more evidence this could be upgraded, particularly as the PIU was doing a third-party data verification exercise of the information in SIGIEP on actuals from PAs.



E. OTHER OUTCOMES AND IMPACTS

Gender

54. Women's participation was a strong project feature. CONABIO's approach to sustainable agricultural production includes a social dimension on gender and generational equality, and while gender was not explicitly disaggregated within project outcomes in the RF, early actions were taken to encourage women's participation in developing subproject business plans. At closing, 28 percent of producers in the PAs were women. More women participated in honey, coffee and ecotourism systems (31 percent), while forestry and silvopastoral systems - traditionally male-dominated - showed lower participation (15 percent and 11 percent respectively). See Annex 6 (female participation by productive system).

55. **The PAD states that beneficiaries included men and women with no gender restrictions or preference, and that participation would depend only on willingness and skills.** A social safeguards assessment in 2016 resulted in a project gender strategy (Aide Memoire #10, 2018) which - as incorporated in project activities - included: (i) equitable strategies to strengthen family work among beneficiaries; (ii) inviting women beneficiaries to participate through delegates; (iii) promotion/participation of women in PA meetings to share key decision-making affecting project implementation.

Institutional Strengthening

56. Institutional strengthening was an important project achievement. In this regard: (i) the TSP framework of services to PAs/producers (training, TA, innovation. research) was instrumental in building institutional capacity of producer organizations; (ii) the Project strengthened transversal elements, i.e. development of frameworks for institutional cooperation and collaboration, which were essential for project success and functioned well; and, (iii) the project fostered public/private partnerships, collaboration and knowledge-sharing across institutions in the MBC countries, a significant achievement which CONABIO will continue to strengthen in the coming years.

Mobilizing private sector financing

57. The project mobilized private sector financing in several ways: (i) given the difficulties in tapping into promised government counterpart financing through SADER and SEMARNAT, the PIU sought and secured private funding from *Fomento Social Banamex* (FSB) of around US\$1.0 million, 4.6 percent of total project expenditures; (ii) the PIU also mobilized private sector financing of \$32 million pesos (US\$1.63 million) as a service enabling PAs to obtain credit from FINDECA (*Financiando el Desarrollo Del Campo*, Financial Institution for Rural Financing) to fund their investment cost-share under the matching grant mechanism. Evaluations of beneficiary associations' potential to access credit were prepared for 11 beneficiary PAs, of which seven had financial plans prepared and four received credit. Through FINDECA, PAs with financial plans also participated in workshops on the financing of sustainable productive practices; and, (iii) additional private funds totaling US\$3.20 million (140 percent of the original estimated US\$2.28 million target) were leveraged from beneficiary PAs as their contribution to the implementation of their Business Plans. Over four years, incremental changes in cash investment increased from 0 percent in year 1 to 20 percent in year 4, and in-kind contributions declined from 30 percent in year 1 to 0 percent in year 4.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION



58. **Consistent government support and experiences under previous projects strengthened the project's rationale and design.** The project was aligned with the Ministry of Environment and Natural Resources' (SEMARNAT) National Environmental and Natural Resources Program (2007-2012), the Government's Special Concurrent Program for Sustainable Rural Development (2007-2012) and Special Climate Change Program (2009-2012) through its objectives to promote sustainable use of ecosystems and restoration of degraded landscapes. Project preparation began in 2009 and was aided by earlier programs - the GEF/United Nations Development Program (UNDP) "Mesoamerican Biological Corridor" Project from 1996-2006 and the GEF/IBRD "Mexico Mesoamerican Biological Corridor" Project from 2002-2009.

59. **Background analytical work and stakeholder participation were strong features of the preparation period.** The project benefitted from a World Bank preparation grant (TF010952) of US\$130,000 financing inter alia, consultancies to: (i) prepare intervention plans with territorial actors and experts; (ii) conduct thematic analytical studies, and; (iii) assess the eligibility of productive systems, the territories, safeguards and indicators. Overall, the territorial planning and selection of project intervention sites was technically sound and involved many local technical experts in both agriculture, environment and other social fields.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to government and/or implementing entities' control:

60. **The high level of inter-institutional coordination and commitment contributed to the achievement of positive biodiversity outcomes.** The project brought multiple institutions to the table. In addition to CONABIO, SEMARNAT and SADER, there was strong participation of the National Forestry Commission of Mexico (CONAFOR), the National Commission of Protected Areas (CONANP), and National Institute of Indigenous Peoples (CDI). These organizations brought specialized technical staff to discussions and technical workshops for integrating biodiversity and ecosystems into productive landscapes.

61. **Dedicated project staff with little turnover were an asset to the CONABIO PIU throughout the project lifetime.** Project staff were critical to the success of the project, kept it running smoothly over its seven-year cycle, helped to create institutional memory and successfully developed key areas like biological monitoring and biodiversity criteria for each sustainable productive system. The staff selected for the project were of high caliber with technical expertise in environmental and social issues, and especially in biodiversity monitoring.

62. **Competitive proposal selection and requiring AP and counterpart contributions for selected proposals promoted quality and ownership.**¹¹ All proposals selected required counterpart and PA co-financing of subprojects. This built responsibility and ownership among PAs, as well as the capacity to invest effectively in mainstreaming AB practices. Subproject selection criteria are described in Annex 6, B6.2.

63. **Fiscal austerity limited the timely provision of counterpart funding, in the agreed amounts.** Counterpart funding was the most significant issue faced by the project throughout. Resources cannot be earmarked for projects in Mexico when the project is appraised or becomes effective, as budgets are determined annually through the '*Presupuesto de Ingresos de la Federacion*' per fiscal year, and commitments must be reassessed annually. Competing demands for ministry budget left the project with insufficient funding due to the national budget laws. SADER funds

¹¹ Subproject selection criteria are described in Annex 6, B6.2.



also tended to be allocated towards the end of the fiscal year, putting pressure on the PIU to execute funds in the short time remaining to year end. Also, GEF restrictions in Mexico require the disbursement of six dollars of counterpart funds for each dollar of the Grant. Both SEMARNAT and SADER contributions over most of the project period arrived late and fell well short of both their commitment and the GEF requirement.¹²

64. **The capacity of PAs at entry to meet subproject terms/requirements varied significantly**, complicating and prolonging their learning process, and delaying the execution of the Business Plans. A significant review of the acquisition plan exercise carried out in June 2016 found marked disparities between associations: some reported 100 percent financial progress, while at least 10 reported less than 60 percent, and six were at zero.

65. **The benefit to individual producers for converting conventional practices to biodiversity-aligned productive practices was indirect.** The project was designed to achieve collective benefits largely through collective action/investment. Individual producers received capacity building and training, access to markets with higher prices and contracts, but not direct on-farm investments which might in some cases, affect their motivation/willingness to continue AB practices longer-term. Most of the project investments were at the collective level: producer associations and associated marketing companies.

Factors subject to World Bank control:

66. **Strengthening client capacity for compliance with Bank procurement processes moved the project forward.** Due to the excessive workload at the beginning of the project and the low capacity of most of the AP which derived in the misinterpretation of the procedures and requirements for compliance, the project suffered some setbacks. This made the learning curve steeper for PAs and prolonged the setting up and execution of the acquisition plans. The Bank procurement team strengthened the capacities of PAs and CONABIO's regional office staff by contracting specialist consultants, oversaw revision of the Operational Manual to clarify procedures, and reviewed progress regularly with the PIU.

67. **Flexibility with processes and project extension ramped up disbursements.** Due to project execution delays in 2017, the Bank provided the PIU with some flexibility by temporarily modifying project grant conditions to accelerate disbursement. The Bank team relaxed the GEF requirement that six dollars of government counterpart be released for every dollar of GEF grant funds, allowing the PAs to access resources for the final two procurement plans and agreeing that government counterpart would be used when available. The Bank also extended the project closing date by 16 months and set implementation goals for the PIU.

Factors outside the control of the Government:

68. **Exchange rate fluctuations benefited the project.** The project was able to meet or exceed most of its intended outcomes despite receiving fewer government resources than anticipated and spending less than the full GEF Grant. Devaluation of the Mexican peso against the USD resulted in more pesos for every USD of GEF financing. The devaluation, plus the fact that the most favorable exchange rates corresponded with the latter half of the project cycle where disbursements were bunched (see Annex 3 figure), allowed the project to take advantage of the exchange rate for accelerating project outcomes and achieving targets.

¹² SEMARNAT committed to allocating \$100 million pesos aggregate over 5 years from its annual budget but only \$56.6 million pesos (US\$3.08 million or 57 percent) were received, and none after 2015. Similarly, SADER committed an aggregate \$150 m pesos, but only \$54.9 million pesos (US\$2.99 million or 40 percent) were received, the first not until 2016 and the second in late 2018.



69. Annex 5 presents a series of additional factors which affected project design and implementation – as well as the lessons learned as a direct result of these experiences - considered important by the Borrower.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

70. M&E design showed moderate shortcomings based on the following:

- **The results framework (RF) adequately captured the protection and conservation objectives of the PDO, and the Theory of Change (TOC) was clear, with some caveats.** A PDO Indicator, and some Intermediate Indicators and project activities, while capturing the PDO, were of broader scope than is evident from the PDO as worded. For example, the PDO Indicator for share of sales of goods and services produced under AB practices is aligned to the PDO objective linked to conservation. This was to occur through market incentives to improve quality and production via the adoption of improved practices which generate environmental benefits. This same indicator however, also captures an economic or income generating motive not stated explicitly in the PDO.
- **The project developed its own integrated monitoring management system designed to systematize the information on components and biological monitoring.** The M&E system design was well-integrated in CONABIO. An online platform, the project Integrated Information System for Management and Evaluation (SIGIEP), was developed as the main M&E tool in 2014. Additional functionalities and modules were designed to facilitate the technical, financial and administrative reports directly from the subprojects. The SIGIEP is hosted on CONABIO's servers and is available on the following website: http://pspsb.info/in_cn_pnab2_ls.php.
- **Biodiversity information collection was an integral part of this Information System.** Biological monitoring data was to be integrated into CONABIO's database and through this to the World Information Network of Biodiversity thereby contributing to the mandate of the Convention on Biodiversity (CBD). Also, collected information was to be integrated into the Environmental Safeguards framework for direct project monitoring and reporting.
- **While the M&E system was well-designed, it would have benefited from a comprehensive M&E plan with a clear information flowchart, and users' roles and responsibilities.** The exception was species monitoring. This situation complicated the timely provision of data for some decision-making processes during project implementation. Likewise, software design could have been more "user-friendly" for use by producers.

M&E Implementation

71. M&E implementation showed moderate shortcomings based on the following:

- **The PIU prepared and disseminated good quality semester reports documenting the achievements of the project and conducted a series of targeted studies and evaluations.** The PIU submitted a strong mid-term project evaluation report (CEGAM, 2015), end-of-project technical project evaluation report (GEMNES, 2019) and Borrower Completion Report (BCR, 2019). Data and studies provided important inputs to the ICR and the project PIU was responsive to Bank requests for information.
- **M&E activities were implemented in a sound and efficient manner at all management levels.** That said, the M&E function faced some lack of clarity in the roles/responsibilities associated with information management, and from initial operational issues affecting SIGIEP. This situation improved substantially in the later stages of



project implementation. Biodiversity monitoring (see Efficacy results) led to informative workshops for training in the instrumentation and socialization of results, an important contribution to longer-term sustainability.

- **The SIGIEP system functioned well, but some modules and functions were not fully installed until 2017.** This affected functionality of the platform at the local/beneficiary level, which delayed the updating of project progress in the RF. Similarly, anomalies were found in some system data entries at the territorial level. This was addressed by consultants hired in the final stages to analyze and re-confirm the quality of information reported into the system, suggesting the need for systematic approaches to controlling project information quality.
- **A major positive aspect of M&E implementation was the third-party verification of results by CERTIMEX, in the field and in real time.** As described in the Efficacy discussion, this provided solid substantiation for the achievement of results, which were above specified targets for many indicators.
- **Implementation of the well-conceived impact evaluation was affected by weaknesses in the survey firm.** The selected firm lacked experience, which affected execution of the evaluation and reduced its ability to demonstrate optimally the results of this unique project. The Bank insisted on timely execution of the final impact survey, but the PIU was slow to re-contract the same survey firm used for the baseline. The resulting rushed implementation caused attrition of baseline participants from the survey, and due to the PIU's own lack of experience with evaluation studies, it did not insist that the survey team identify better quality treatment and control groups.

M&E Utilization

72. M&E utilization was a strong project feature, based on the following:

- **Institutional stakeholders relied heavily on the SIGIEP system.** System data on the RF, financial management and procurement were used extensively by CONABIO, SEMARNAT, SADER and the Bank. Information generated through the system was also presented in semester reports in a systematic, comprehensive and well-documented manner, keeping the Bank informed during supervision missions.
- **Data generated through the system was utilized as an input into ISRs, aide memoires, bi-annual project progress reports, bi-annual interim unaudited financial reports, project financial statements, the ICR and the Borrower Completion Report.** The final output and outcome indicators were verified by CERTIMEX, and while the final indicator values needed updating through a separate accounting exercise, the system functioned well. Mistakes were due to human error. Results from M&E were also used as key inputs for South-South knowledge exchange activities and biodiversity-related training and workshops.
- **CONABIO conducted studies on sustainable AB production in some of the productive systems, and on biodiversity (and its monitoring) in the Mesoamerican Biological Corridor.** These were key inputs into the ICR and for dissemination of project information through PIU presentations.
- **Biological monitoring in productive landscapes is an emerging multi-disciplinary area to which the project's M&E activities made an important contribution.** This included the definition of objectives and indicators for monitoring the taxonomies of different species. Knowledge gained under this project was disseminated at a regional workshop of experts led by *Centro Agronómico Tropical de Investigación y Enseñanza* (CATIE, Tropical Agricultural Research and Higher Education Center) for the MBC, which in turn under-pinned the first Manual of Biodiversity Monitoring in Sustainable Rural Production: Lessons Learnt in Mesoamerica.



Justification of Overall Rating of Quality of M&E

73. Performance of M&E is rated **Substantial** despite moderate shortcomings in the design and implementation of the M&E system. The system was generally adequate to assess the achievement of project objectives, track fiduciary and safeguards progress, test the links in the results chain and make valued contributions to national and Mesoamerican biodiversity goals and consensus. Even so, moderate weaknesses in some areas suggest that the restructuring inter alia, could have made additional adjustments to the RF.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

74. The project triggered Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Pest Management (OP 4.09), Physical Cultural Resources (OP/BP 4.11) and Indigenous Peoples (OP/BP 4.10). The project dealt inherently with a range of environmental issues by tackling sustainable, AB production, while the use of the marginalization index at appraisal to capture poverty included many communities with majority indigenous populations. Social and environmental assessments, and an Environmental and Social Framework (ESF) were prepared to meet World Bank standards.

75. **Environmental Safeguards.** As the project was expected to reduce pressure on ecosystems and preserve biodiversity, impacts were expected to be positive and were. There was no expectation that land use change (i.e. further infringement on conserved land) would occur, nor were such activities supported through subprojects, and no forests were impacted. The Environment Assessment (EA) produced a series of recommendations for each one of the production systems. An evaluation of compliance with environmental safeguards to check for systematization and monitoring of safeguard policies found that PAs were expected to report on specific questions within the SIGIEP system related to meeting environmental standards. Some PAs however, did not respond to these questions with the suggested frequency. Nonetheless, information reported in the Operational Manual, and PA Business Plans were used to verify their compliance with the Ops - compliance with all triggered OPs was found to be satisfactory.

76. **Social Safeguards.** Social risks associated with the project were classified as limited, due mainly to the nature of the proposed interventions, since the project financed goods and services, as well as minor works related to the production systems considered. The social safeguards strategy was clear on the Project's dissemination and promotion mechanisms. In terms of Social Safeguard achievements, 22 of the 27 PAs included members from indigenous populations and met the requirements of OP/BP 4.10. Women's participation in PAs increased in 14 associations, and 5 additional women were in managerial positions by the end of the project.

77. **Fiduciary Compliance.** The project showed a moderately satisfactory trajectory in both procurement and financial management (FM), with some caveats on FM. Bank procurement specialists effectively helped the PIU to resolve early issues stemming from their misinterpretation of Bank procurement guidelines and trained the PIU procurement team to manage procurement processing more efficiently. However, FM ratings dropped to moderately unsatisfactory in 2016, due to doubts about the availability of government counterpart funding and some delays in the implementation of the SIGIEP system at AP level to report subproject financial information. Project unaudited Interim Financial Reports (IFR) were repeatedly submitted to the Bank beyond the due date: recurrently, project IFRs were received after due date with delays ranging from two to three months. Notwithstanding the late submissions, IFRs were deemed satisfactory and acceptable by the Bank.



78. **Disbursements:** Disbursements accelerated in the final 18 months prompting an upgrade in the FM rating to moderately satisfactory, as CONABIO addressed Bank recommendations to enhance its FM system mainly by implementing the SIGIEP at AP level to produce, control and report subproject financial information. A small, undisbursed balance of GEF Grant funds remained at end of project.

79. **Audits:** Audit reports typically found minor issues related to the project's internal controls mostly at subproject (PA) level. Nonetheless, all the internal control recommendations made by the independent auditor were satisfactorily addressed and implemented by CONABIO to the Bank's satisfaction.

C. BANK PERFORMANCE

Quality at Entry

80. Key elements for assessing the project's Quality at Entry are as follows:

- **The PDO, components, short and long-term outcomes, and targeting were generally well designed and explained in the PAD.** Institutional arrangements were also well-conceived and documented. The Bank played a key role in identifying the strategic sectoral relevance of the project for Mexico, for agricultural production and for environmental conservation, and the project was prepared in a timely manner. The Bank was also able to ensure that GEF priorities were well-represented in project design. The project PDO could have made a stronger link between conservation objectives and livelihood opportunities.
- **Project design however, might have benefited from a more balanced approach that transferred funds not only to collective and transversal activities but also to on-farm investments in sustainable productive practices.** More direct funding to individual producers could have further strengthened their participation and motivation and helped to maximize returns through market opportunities both during the project lifetime and longer-term.
- **Environmental conservation was a fundamental project goal.** Environmental safeguards were diagnosed appropriately, and the required analyses conducted.
- **Institutional Risk as it related to overall implementation risk could have been rated higher at design.** Counterpart funding comprised a large share of project financing and came from both SADER and SEMARNAT (though there was no contractual/legal counterpart funding provision), which faced tightening fiscal envelopes over the course of the project due to Federal Government public expenditure contraction. Further, the effects of the national budget law were well-known from other Bank operations. Some of this potential risk could have been better-assessed/weighed at the design stage and more appropriate mitigation measures conceived.

Quality of Supervision

81. Key elements for assessing project supervision quality are as follows:

- **The Bank provided effective support to implementation.** Supervision missions were regularly scheduled and typically included all required specialists including fiduciary, procurement, environmental and social safeguards and M&E expertise. As noted earlier, Bank procurement staff were effective in resolving early roadblocks related to misinterpretation of procurement guidelines, in providing solutions to issues as they arose, and in assisting counterpart staff with training in procurement processes. Bank fiduciary staff played a crucial role in working with the PIU to monitor budget allocation and planning, disbursement progress and counterpart funding.
- **When project implementation faced challenges, the Bank acted decisively to promote/schedule measures designed to restore key performance ratings.** Following the Mid-term Review (MTR) project implementation status, Component 1 status, financial management and counterpart funding were downgraded to moderately unsatisfactory for about one year due to inadequate FM-related planning processes which were reducing the



flow of funds to PGs, delaying disbursement requests and impeding implementation. The Bank team acted decisively by: (i) bringing in an external evaluator (agriculture GP staff from another region) to assess the overall situation; (ii) engaging the public and private sector in a wide-ranging consultation on the Project's objectives and progress; (iii) conducting an online satisfaction survey of all 27 PAs; (iv) conducting in-depth discussions and formulating an Action Plan with the client; (v) requiring the PIU to create a disbursement plan for achieving minimum disbursement of 50 percent; and; (vi) requesting a 16-month project extension.

- **The Bank made concerted efforts to ensure the quality of M&E and focused on development impact.** The Bank recommended changes to the project M&E system (SIGIEP) to improve efficiency and performance of reporting mechanisms and maintained pressure on the PIU to design and implement appropriate evaluation, the latter with mixed results stemming from the client's inexperience. Changes were made in 2014 to SIGIEP modules on procurement, finance and results monitoring, and the system was upgraded in 2015 to a more efficient version.

Justification of Overall Rating of Bank Performance

82. Bank performance is rated **Satisfactory** as there were only minor shortcomings in Quality at Entry and Quality of Supervision. Accounting for minor inadequacies at the preparation phase which adversely affected Quality at entry, and a strong supervision performance, overall Bank performance was commendable.

D. RISK TO DEVELOPMENT OUTCOME

83. Risk to development outcome is rated **Moderate**. Project design and implementation had several features that suggest good prospects for sustainable development outcomes. Those features are discussed below, along with risks that could limit sustainability.

- **The project's degree of institutional capacity-building, collaboration and south-south knowledge transfer between the Mesoamerican countries were also significant drivers of likely longer-term sustainability.** This project represented an innovative and essential effort to integrate sustainable practices in productive landscapes in vulnerable regions of the country and an initial but emblematic example of how that can be made to work in Mexico.
- **Institutional reorganization within CONABIO occurred in areas focused on aspects of biodiversity and sustainable land use.** A new General Coordination of Agrobiodiversity and Biological Resources was instituted, focusing on the coordination of biological resources and community products to strengthen agricultural production and forestry in a socially fair and friendly way compatible with the environment.
- **The Mexican policy environment for promoting sustainable production for biodiversity conservation remains highly relevant.** The National Biodiversity Strategy and Action Plan for 2016 -2030 continue to advocate for the incorporation of sustainable practices in agriculture and productive landscapes. This implies that PAs, PGs and producers are likely to continue having access to incentives for engaging in AB production. The supportive policy framework has also prompted development of a follow-on GEF-funded project "Sustainable Productive Landscapes" under the Ministry of Environment and involving other governmental actors.
- **CONABIO is implementing another GEF Grant project, "Mexican Agrobiodiversity" through FAO, which has a valuation and market component.** Several of the results and lessons learned from the SPSB Project will be incorporated.
- **Of high importance and likely to strengthen sustainability is the requirement for legal constitution of PAs.** Careful selection of both PAs and their subproject proposals, together with supporting their legal constitution as well as boosting their technical and financial monitoring capacity, resulted in quality investments with longer-term sustainability.



- **PAs and co-investors have a vested interest in future success.** PAs applied for the project only if they were able to co-invest in subprojects and therefore have their own stake in the game. PAs have an incentive to keep investing in building capacity for the PGs and their producers over the longer-term. Some project PAs are also being supported under the Forest Management and Entrepreneurship Project (P164661). The Sustainable Productive Landscapes Project (P159835) will also provide monitoring support and consolidate efforts initiated under the SPSB Project. The motivation and adherence of individual producers may be unclear however, given that the project did not provide them with direct financing for their adoption of AB practices, an issue discussed elsewhere in this ICR and a lesson for future, similar projects.
- **Improved quality control and development of new markets and contracts opened the door to continued returns from goods and services produced under AB practices.** With adequate quality control services, intelligence on market opportunities and pricing premiums for their distinctive AB products, there is an incentive to keep producing these products longer-term even if the ideals and vision of environmental conservation are not always a primary motivation.

V. BANK LESSONS AND RECOMMENDATIONS

84. The following lessons area among the most important to come out of this experience:

- **Government counterpart budget availability and associated risks for project viability need careful assessment during project preparation for Mexico.** Federal budgetary regulations do not guarantee earmarking of national resources for specific ministries beyond one year. Thus, ministerial commitments need to be weighed against the current and future fiscal climate and consider the impact on projects of events such as elections. It is recommended that project design bring in more formally-committed resources: IBRD loan, grant funds and private crowd funding. Future projects might also consider channeling resources through a public fund which permits multi-year budgeting for specific purposes (such a sustainable productive practices) and where the public trust funds are approved by the Ministry of Finance.
- **Productive practices constitute a central tenet of environmental sustainability and biodiversity conservation.** As much of the land needing to be brought under sustainable management to prevent further degradation involves economically active agents living off this land, economic viability needs to be integrated with environmental factors. It is recommended that the economic motives for gaining a price premium from a segment of consumers willing to pay for high quality, differentiated products with environmental attributes and good quality control, be made very clear to producers. However, access to these markets needs to be pursued far upstream, so that producers can witness the physical demand for these products and the existence of contracts with buyers.
- **Producer Associations are the central subjects and protagonists of such projects.** This element of project design and implementation promoted more long-lasting investments. By requiring PAs to hold a stake in the investment, and play a leading role in subproject design, planning and implementation through Business Plans, the Project was able to leverage their collective expertise, potential and valuable insights on their productive processes. It is recommended that this bottom-up demand driven approach continue to be used and strengthened since it is a key factor in the longer-term success and sustainability of such investments.
- **Involving producers more centrally in sustainable productive landscape projects pays dividends.** While the involvement of Producer Associations was key for project outcomes, individual producers did not receive direct financial incentives to shift to sustainable production practices. Thus, their motivation/desire to maintain AB



practices longer-term is not a given, especially if market opportunities are limited. It is recommended that similar projects ensure more direct involvement of producers as individuals, providing them with access to investment credit and/or other incentives.

- **Product differentiation of goods and services derived from sustainable use of biodiversity has significant potential benefit for markets in Mexico and for global markets.** The project made a major effort to differentiate products for selected markets and to develop/articulate standards, certification and/or bio-labelling, supported by external verification. For coffee, honey, cocoa and other more tangible products, the standards were accompanied by packaging and labeling that could position these unique products in global markets through branding. Documentation of AB practices and their environmental implications created greater market awareness and understanding of the products. It is recommended that these important but still preliminary efforts receive substantial support moving ahead and be strengthened and systematized under new projects.
- **Innovative dissemination of findings on sustainable productive practices and biodiversity can create awareness among diverse audiences.** The exhibition at the Museum of Sciences at *Universidad Nacional Autonoma de Mexico* (UNAM) from November 2018 to April 2019, reached 60,000 visitors including school children, university students and many other groups (<http://www.universum.unam.mx/exposiciones/t/producir-conservando>). The exhibition is then going to Oaxaca, will return to BANAMEX in Mexico City, and will also be hosted on a virtual site. The exhibits demonstrate how the Project developed AB practices in Mexican communities and is directed at the wider public to promote the value of knowledge and conservation of national biocultural diversity, as well as practices and productive activities that are viable options in sustainable development.
- **The cost of biodiversity monitoring in biodiversity-related projects must be weighed against the benefits.** For example, biodiversity monitoring was conducted to estimate the frequency of jaguar sightings. While the information collected was invaluable for attributing changes to the project, it was also costly due to the types of equipment required for monitoring. It is recommended that future, similar projects make better use of the resulting information to do more scientific studies of the relationship between the economic and biodiversity benefits, as this is a little-known area and could provide valuable lessons.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Project Development Objective

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Areas brought under enhanced biodiversity protection (ha)	Hectare(Ha)	0.00 30-Aug-2012	34500.00 30-Aug-2012	68490.00 25-May-2017	81462.00 30-Apr-2019

Comments (achievements against targets):

Exceeded: 81,462 ha (118 percent of target).

Measured as the sum of the surface area of each producer association compiled by using information from each producer, and where it was noted that most producers apply the AB practice on their entire parcel. Each PA compiles a producer level list checking off which biodiversity practices have been complied with by the producer, and that meet the defined attributes for each productive system.

At restructuring this indicator was scaled to reflect the increased demand for the project which accommodated 27 POs relative to the original 17. It was estimated that each of the 27 PAs selected could reach 2029 hectares on average, and an additional 25% more when considering an extension of 16 months.



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Producers applying biodiversity-friendly production practices	Number	0.00 30-Aug-2012	6900.00 30-Aug-2011	13150.00 25-May-2017	12956.00 30-Apr-2019
<p>Comments (achievements against targets): Substantially achieved: 12,956 producers (98.5 percent of target)</p> <p>Measured as the sum of producers that: (a) are members of a PG associated with a PA of the subproject; (b) participate in activities involving direct training; (c) carry out productive activity according to AB standards that are monitored, reported and verifiable.</p> <p>At restructuring it was estimated that each of the 27 PAs selected could reach 406 producers on average, and a 20% additional projection was added when considering an extension of 16 months.</p>					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Share of sales of goods and services produced under biodiversity-friendly practices	Percentage	0.00 30-Aug-2012	12.00 30-Aug-2012	24.00 25-May-2017	24.40 30-Apr-2019
<p>Comments (achievements against targets): Exceeded: 24.40% (102 percent of target).</p>					



This measures the percentage of sales of goods and services that comply with AB standards, and that are monitored and reported. At the end of the project, it was originally expected that at least 12% of the sales of goods and services of each participating producer association would be produced using biodiversity-friendly production practices.

The restructuring estimated an increase of 100% in the target due to the increased number of producers and land area under biodiversity-friendly production practices (as a result of the restructuring), as well as the 16-month extension.

A.2 Intermediate Results Indicators

Component: Sustainable Production Systems and Biodiversity Mainstreaming

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Producer groups participating in biodiversity-friendly business plans	Number	0.00 30-Aug-2012	190.00 30-Aug-2012		182.00 30-Apr-2019

Comments (achievements against targets):

Substantially achieved: 182 (93.7 percent of target).

Measures the number of Producer Groups who are members of legally constituted PAs, and who participate in the implementation of PNAB.

The cumulative target value includes 40 producers groups of coffee, 20 of cocoa, 30 of honey, 5 of silvo-pastoral cattle-raising, 40 of wildlife use, 15 of forestry and 40 of ecotourism.



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Producers that complete a training program in biodiversity-friendly practices	Number	0.00 30-Aug-2012	2300.00 30-Aug-2012	8370.00 25-May-2017	10003.00 30-Apr-2019
<p>Comments (achievements against targets): Exceeded: 10,003 (119.5 percent of target)</p> <p>The cumulative target value includes the producers of the six supported production systems that completed direct training activities. At restructuring it was estimated that each of the 27 APs selected could train, on average, 310 producers in biodiversity friendly practices.</p>					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Technical Service Providers (TSPs) are contracted and supporting producer groups	Number	0.00 30-Aug-2012	31.00 30-Aug-2012		29.00 30-Apr-2019
<p>Comments (achievements against targets): Substantially achieved: 29 (93.5 percent of target).</p>					



The cumulative target value includes 4 TSPs for coffee, 4 for cocoa, 7 for honey, 3 for silvo-pastoral cattle raising, 3 for wildlife use, 5 for forestry and 5 for ecotourism.

Component: Producer Associations and Biodiversity-Friendly Market Initiatives

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Producer associations that provide quality control services to group members are established	Number	0.00 30-Aug-2012	17.00 30-Aug-2012	27.00 25-May-2017	27.00 30-Apr-2019

Comments (achievements against targets):

Fully achieved: 27 (100 percent of target).

The cumulative target value considers producer associations that provide quality control services to producer groups. At restructuring, demand for the project was higher than expected and it was estimated that all of the 27 PAs selected will provide quality control services.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Business alliances with buyers for marketing of differentiated products are established.	Number	0.00 30-Aug-2012	7.00 30-Aug-2012	32.00 25-May-2017	42.00 30-Apr-2019



Comments (achievements against targets):

Exceeded: 42 (131% of target)

Measures the number of business alliances established through the project, in which the value added of services and products produced under biodiversity friendly practices is recognized. At restructuring it was estimated that all of the 27 APs selected would establish a business alliance, and given 16 month extension of project, an additional 20% over 27 was projected. The indicator was also adjusted from the original: 'Business alliances with buyers for marketing of bio labeled products are established' as bio-labelling proved to be difficult and products were differentiated by standards established through the project.

Component: Institutions, Labels and South-South Cooperation

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Capacity-strengthening activities in biodiversity-friendly business practices developed and implemented	Number	0.00 30-Aug-2012	25.00 30-Aug-2012		22.00 30-Apr-2019

Comments (achievements against targets):

Substantially achieved: 22 (88% of the target)

The cumulative objective value included the realization of at least 25 activities planned within the logical framework of the Program for the Development of Capacities for Sustainable Productive Systems.



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Differentiation instruments developed and in use under third party verification mechanisms	Number	0.00 30-Aug-2012	5.00 30-Aug-2012		6.00 30-Apr-2019
<p>Comments (achievements against targets): Exceeded: 6 (120% of target)</p> <p>Such instruments were developed for 6 production systems except for forestry and cocoa production.</p> <p>Note: The original indicator was defined as 'Bio-labels developed and in use under third party verification mechanisms'. However, as the development of bio-labels proved to be difficult, at restructuring the indicator was revised to 'instruments for differentiation'.</p>					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
South-south exchange activities for training and technology transfer between Mexico and Mesoamerican country institutions implemented	Number	0.00 30-Aug-2012	10.00 30-Aug-2012		14.00 30-Apr-2019
<p>Comments (achievements against targets):</p>					



Exceeded: 14 activities (140% of target).

The cumulative target value includes the fulfillment of at least 10 activities with participation of at least 2 Mesoamerican countries, planned within the logical framework of a South-South cooperation program.



B. Revisions to indicators, targets and rationale at restructuring (*blue shading indicates changes made during restructuring)

	Unit of Measure	Current Value (December 2016)	Current target	Revised Target	Rationale (for revised target)
Project Development Objective (PDO): to conserve and protect nationally and globally significant biodiversity in Mexico through mainstreaming biodiversity-friendly management practices in productive landscapes in priority biological corridors.					
PDO level results indicators					
Indicator One (core): Land area under biodiversity-friendly production systems in biological corridors.	Hectares	39,678	34,500	68,490	It was estimated that each of the 27 PAs selected could reach 2,029 hectares on average, plus an additional 25 percent with an extension of 16 months.
Indicator Two: Producers applying biodiversity-friendly production practices.	Number	6,396	6,900	13,150	It was estimated that each of the 27 PAs selected could reach 406 producers on average, plus an additional 20 percent with an extension of 16 months.
Indicator Three: Share of sales of goods and services produced under biodiversity-friendly practices*. *Average across all PAs	Percent	13.8	12	24	An increase of 100 percent was estimated given the 16 month extension and assumption that additional biodiversity-committed producers would demand participation.
INTERMEDIATE RESULTS					
Intermediate Result (Component One): Producer use of sustainable practices throughout their production system increases in priority biological corridors					
Indicator 1.1: Producer groups participating in biodiversity-friendly business plans	Number	185	190	n/a	n/a
Indicator 1.2: Producers that complete a training program in biodiversity-friendly practices.	Number	5,250	2,300	8,370	It was estimated that each of the 27 APs selected could train, on average, 310 producers in biodiversity-aligned practices.
Indicator 1.3: Technical Service Providers (TSPs) are contracted and supporting producer groups	Number	30	31	n/a	n/a



	Unit of Measure	Current Value (December 2016)	Current target	Revised Target	Rationale (for revised target)
Intermediate Result (Component Two): Producer associations capacities improve for technical production, business management and marketing of biodiversity-friendly products					
Indicator 2.1: Producer associations that provide quality control services to group members are established	Number	17	17	27	It was estimated that each of the 27 PAs selected would provide quality control services
Indicator 2.2: Business alliances with buyers for marketing of differentiated products are established	Number	18 (18 alliances corresponding to 6 APs)	7	32	It was estimated that each of the 27 APs selected would establish a business alliance, and that the level of achievement with the 16-month extension would exceed the target by 20 percent.
Intermediate Result (Component Three): Institutional capacities, standards and South-South cooperation to support biodiversity-friendly production and financing are improved					
Indicator 3.1: Capacity-strengthening activities in biodiversity-friendly business practices developed and implemented	Number	5	25	n/a	n/a
Indicator 3.2: Instruments of differentiation - in use and with independent verification mechanisms.	Number	0	5	n/a	n/a
Indicator 3.3: South-South exchange activities for training and technology transfer between Mexico and	Number	7	10	n/a	n/a



A. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1	
Outcome Indicators	Area brought under enhanced biodiversity protection (ha) 81,462 ha (118 percent of target).
Intermediate Results Indicators	<ol style="list-style-type: none"> 1. Producer groups participating in biodiversity-friendly business plans: 182 (93.7 percent of target). 2. Producers that complete a training program in biodiversity-friendly practices: 10,003 (119.5 percent of target). 3. Technical Service Providers (TSPs) are contracted and supporting producer groups: 29 (93.5 percent of target).
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<ol style="list-style-type: none"> 1. Land area per producer of each productive system with verified and sustained compliance of AB practices. 2. Detailed definitions of biodiversity-friendly practices, attributes and measurement of compliance by productive system. 3. Monitoring of biodiversity (birds and mammals including jaguars) as indication of enhanced biodiversity in biological corridors.
Objective/Outcome 2	
Outcome Indicators	Producers applying biodiversity-friendly practices 12,956 producers (98.5 percent of target).
Intermediate Results Indicators	<ol style="list-style-type: none"> 1. Producer associations that provide quality control services to group members are established: 27 (100 percent of target). 2. Business alliances with buyers for marketing of differentiated products are established: 42 (131 percent of target).



	3. Capacity-strengthening activities in biodiversity-friendly business practices developed and implemented: 22 (88 percent of target).
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<p>1. Technical units develop virtual library for dissemination of information related to AB friendly products for producers, PAs, and the public.</p> <p>2. Technical units develop scientific studies to test composition of products like honey and coffee used for measuring attributes of AB friendly products.</p>
Objective/Outcome 3	
Outcome Indicators	Share of sales of goods and services produced under biodiversity-friendly practices: 24.4 percent (102 percent of target).
Intermediate Results Indicators	<p>1. Capacity-strengthening activities in biodiversity-friendly business practices developed and implemented: 22 (88 percent of target).</p> <p>2. Differentiation instruments developed and in use under third party verification mechanisms: 6 (120 percent of target).</p> <p>3. South-South exchange activities for training and technology transfer between Mexico and Mesoamerican country institutions implemented: 14 (140 percent of target).</p>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<p>1. Regional assemblies, results dissemination events and dialogue for promoting conservation in MBC.</p> <p>2. Technical lines of action by productive system for capacity strengthening.</p> <p>3. Acceptance of labels and standards by CERTIMEX.</p>



ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Svetlana Edmeades	Task Team Leader, Senior Agriculture Economist
Robert Ragland Davis	Senior Forestry Specialist
Ricardo Hernandez	Environment & Safeguards, Senior Environmental Specialist
Gabriel Penalzoa	Procurement, Senior Procurement Specialist
Juan Carlos Serrano-Machorro	Financial Management, FM Specialist
Shirley Foronda	Financial Management/ Disbursement, FM Analyst
Jason Jacques Paiement	Social and Safeguards, Social Safeguard Specialist
Jeannette Ramirez	Operational Support, Operations Officer
Mariangeles Sabella	Sr. Counsel, Lawyer
Victor Ordonez	Disbursement, Finance Officer
Patricia de la Fuente Hoyes	Disbursement, Sr. Finance Officer
Giovanni Bo	Counsel, Lawyer
Luz Berania Diaz Rios	Value Chains Specialist, ET Consultant
Nancy Montes de Oca	Administrative Support, Team Assistant
Ketty Morales	Administrative Support, Language Program Assistant
Kawaw Andam	Impact Analysis, Economist
Diana Jimenez Cruz	Administrative Support, Team Assistant
Alberto Yanosky	Biodiversity Specialist, Consultant
Pierre Werbrouck	Productive Alliances Specialist, Consultant
Supervision/ICR	
Luz Berania Diaz Rios	Task Team Leader, Sr. Agribusiness Specialist
Gabriel Penalzoa	Procurement, Sr. Procurement Specialist
Joao Guilherme Morais de Queiroz	Procurement, Procurement Specialist



Luis Barajas Gonzalez	Financial Management, FM Specialist
Ashwini Sebastian	Technical Analysis, Economist
Angelica Calderon	Administrative, Program Assistant
Arelija Javice Lopez Castaneda	Social and Safeguards, Social Specialist
Angel Alberto Yanosky	Environment and Safeguards, Environmental Specialist
Svetlana Ognianova Edmeades	Advisor, Sr. Agricultural Economist
Mario I. Mendez	Administrative, Program Assistant
Diana Gabriela Jimenez Cruz	Administrative, Program Assistant

A. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY10	2.019	10,087.56
FY11	8.476	47,661.46
FY12	29.884	151,905.98
FY13	1.892	14,505.12
Total	42.27	224,160.12
Supervision/ICR		
FY13	5.155	45,508.00
FY14	10.225	54,803.80
FY15	8.100	53,418.03
FY16	14.875	100,341.87
FY17	9.713	48,283.74
FY18	4.760	42,070.10
FY19	0	- 227.51
Total	52.83	344,198.03



ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$M)	Actual at Project Closing (US\$M)	Percentage of Approval (percent)
Sustainable Production Systems and Biodiversity Mainstreaming	16.86	10.28	60.97
Producer Associations and Biodiversity-Friendly Market Initiatives	8.01	4.63	57.52
Institutions, Labels and South-South Cooperation	4.60	2.75	59.78
Project Management and Monitoring	3.70	4.45	120.27
Total	33.17	22.11	66.66

Project Financing: Actual including Beneficiary Contribution

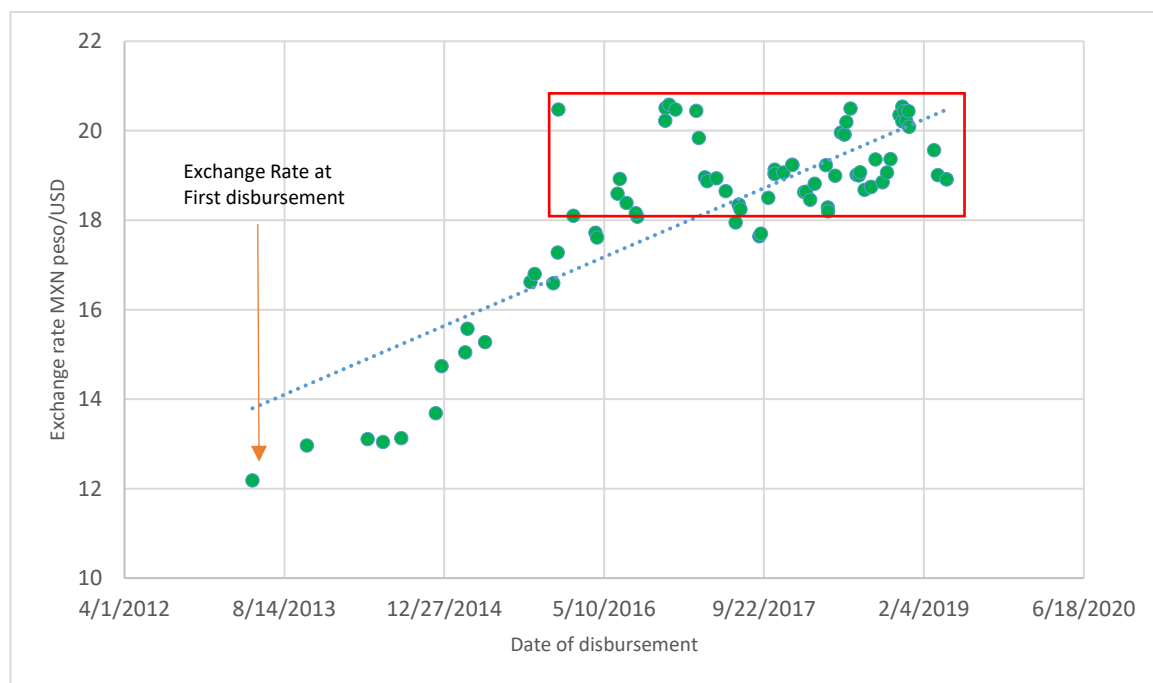
Sources of Funds	Amount at Approval (US\$ M)	Actual at Closing (US\$ M)	Percent
IBRD (GEF)	11.69	10.80	92.38
Borrower	19.20	7.11	37.03
Beneficiaries ¹³	2.28	1.57	68.86
Other Private Sector ¹⁴	na	2.63	na
Total:	33.17	22.11	66.66

¹³ Beneficiaries includes own funds excluding amount received from FINDECA.

¹⁴ Fomento Social Banamex (US\$1.0M), and FINDECA (Financiando el Desarrollo del Campo) US\$1.63M. Note also that final aggregate project cost in first table does not include private sector (beneficiaries and FIs) contributions totaling US\$5.83 M; and, that the Financing table in the Data Sheet permits only Borrower/Recipient under "Non-World Bank Financing".



Mexican peso to U.S. dollar exchange rate against actual disbursements, 2013 to 2019.





ANNEX 4. EFFICIENCY ANALYSIS

I. Methodology

Ex-post cost-benefit analysis was carried out to determine project efficiency as measured by conventional Economic and Financial Indicators. Complementary ex-post cost-effectiveness analysis was also done to estimate cost-effectiveness ratios. The procedures used are described in detail in this section.

a) Sample. The cost-benefit analysis was based on the evaluation of 15 subprojects supported under the 25 business plans financed by the project. The following table shows the main characteristics of these subprojects and the distribution of the sample by type of subproject.

Table 1. Subproject characteristics and sample distribution

Subproject type	Subproject number	Sample size	Total investment (USD)	Beneficiary numbers		
				Farmers	Farmer organizations	Hectares
Forestry	8	8	1,793,337	2,929	30	22,864
Coffee	5	3	2,030,193	8,186	72	27,110
Honey	5	2	1,111,921	717	22	11,815
Eco-tourism	4	1	905,778	1,087	29	8,150
Cocoa	2	0	389,016	834	7	1,366
Silvopastoral	1	1	255,075	367	9	2,200
Total	25	15	6,485,320	14,120	169	73,505

The sample was selected considering two non-statistical criteria: i) include at least one subproject of each type, and ii) consider only mature subprojects that had completed at least two-production cycles after having started implementation of the business plan. In the end cocoa subprojects were not included the sample, as none met the second criterion. The consultant firm hired to conduct the project final evaluation collected primary data through participatory workshops and interviews with beneficiaries and technical assistants. Data collection was carried out from November 2018 to February 2019. In this process, production volume and nominal prices from 2014 to 2018 were reported for each evaluated subproject. The analysis of the without-project situation was based on 2014 data, and the analysis of the with-project situation was based on 2015 to 2018 data.

b) Data analysis. Production volumes were multiplied by nominal prices to calculate gross production values as “proxy” indicators of the gross income generated by each business plan. Incremental subproject costs were defined as the beneficiaries’ monetary and in-kind contributions, as the implementation of new biodiversity-friendly practices generated additional costs. Before estimating the incremental net benefit flows and cost flows, nominal values were converted to real values using 2014 as the base year. Indicators estimated for each subproject category included incremental Net Present Value (NPV), Internal Rate of Return (IRR), Incremental Net Benefits, and the Cost-effectiveness Ratio, all calculated over a 20-year evaluation period. Aggregated indicators for the project as a whole were estimated by summing the net benefit flows and cost flows for all subproject types. The analysis takes into account direct and indirect



project costs including: i) direct investment in subprojects (project component 1 and 2), ii) technical assistance and strengthening producer associations (project component 1 and 2), iii) institutional strengthening (project component 3), and iv) project monitoring and management.

c) Assumptions and key parameters

The social discount rate used for the cost-benefit and cost-effectiveness analysis was 10 percent, the rate currently being used in Mexico to evaluate the feasibility of public investments. The evaluation period for both types of analysis was 20 years, consistent with the period covered by the business plans financed by the project. The exchange rate used to convert Mexican pesos to American dollars was \$19.21. Consistent public investment analysis performed by the Government of Mexico (GoM), market prices were considered equivalent to social prices (conversion rate of 1:1). As a result, the results of the economic and financial analysis are identical.

II. Results

2. 1 Cost-benefit

The aggregate and disaggregate results of the economic and financial indicators and the sensitivity analysis of the project are presented in Table 2, which shows the incremental net present value, internal rate of return (IRR), Incremental Net Present Value per beneficiary producer and hectare for a social discount rate of 10 percent and 20-year evaluation period.

Table 2. Economic and financial indicators

Subproject category	NPV	IRR (percent)	B/C	NPV (USD/beneficiary/yr)	NPV (USD/ha/yr)
Total project	5,658,447	15.2	1.2	329.5	69.2
Coffee	(612,806)	6.3	0.8	---	---
Eco-tourism	(487,246)	4.0	0.8	---	---
Forestry	9,027,942	61.3	2.9	2952.2	343.4
Honey	(1,233,858)	-4.1	0.6	---	---
Silvopastoral	537,711	31.4	1.9	1465.2	212.6

Total project

The aggregate FIRR and EIRR and incremental NPV were estimated at 15.2 percent and USD 5.6 million respectively. The Benefit/Cost ratio was 1.2. The incremental NPV per beneficiary/year and hectare/year were determined at USD 329.5 and USD 69.2 respectively. These values were obtained taking into account the direct and indirect project costs. The IRRs are above the social discount rate, showing that the



investment operation generated attractive returns overall. These values fall within the average ranges of similar projects implemented in the region.

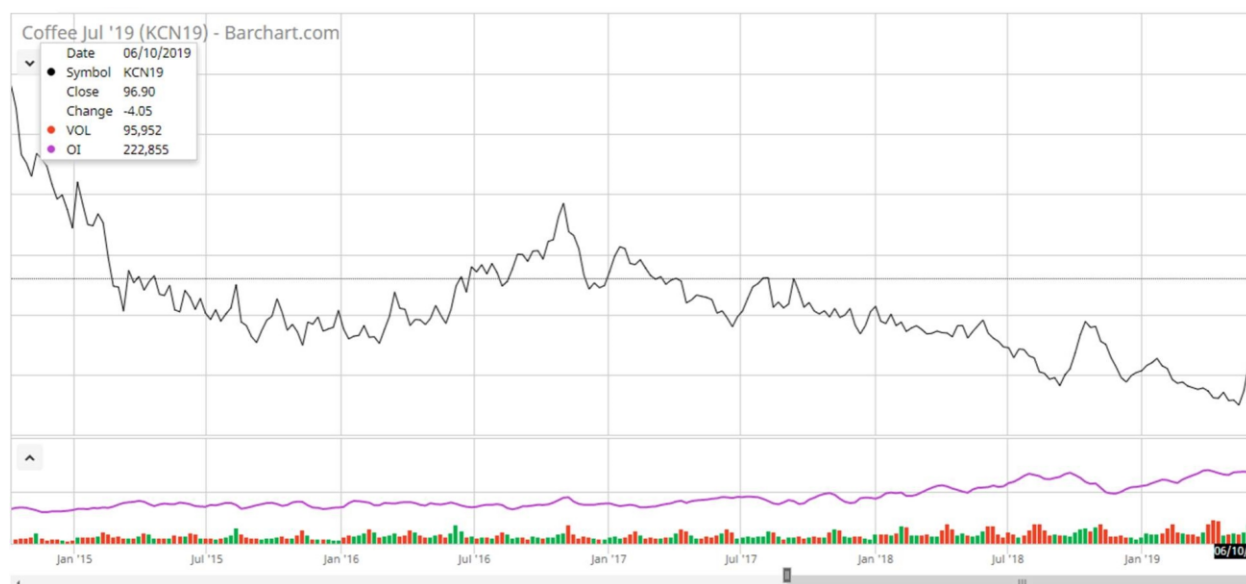
Subproject categories

As expected, the forestry and silvopastoral subprojects generated significant positive returns on investment. Both sectors have important production strengths in terms of technical capacities, organizational structure and productive diversification. The project reinforced the production capacities of these types of activities.

Coffee and eco-tourism subprojects generated positive IRRs, but the values are below the social discount rate. This suggests that investments made under these types of subprojects did not meet expectations in financial and economic terms.

In the case of coffee subprojects, the disappointing result could have occurred because during project implementation, the Mexican coffee sector was adversely impacted by “yellow rust” disease. Many farmers had to replace diseased trees, resulting in a drop in production as newly planted seedlings matured. In addition, global coffee prices declined about 36 percent from 2014 to 2018, falling to the lowest levels seen in 14 years (Figure 1). For these two reasons, the efficiency analysis of coffee subprojects is likely to have underestimated the productive potential of coffee subprojects over the longer term.

Figure 1. Trends in global coffee prices, 2015-2018



Source: KCN

In the case of eco-tourism subprojects, the disappointing results could be explained by slower-than-expected growth in the demand for eco-tourism services. Also, investments supported under the project in clean and efficient technology (among others) have helped to improve the efficiency of resource use



and conserve biodiversity, but the benefits of these changes cannot be measured easily in the short term.

Honey production subprojects generated negative returns. This unexpected result appears to have been due to several factors: i) the market for honey in the project area is largely informal, so the production volumes reported through PAs could have underestimated actual production volumes, because most honey producers commercialize a significant quantity of their production in informal markets and not through producer associations; ii) the maximum productive potential of bee colonies is achieved in the medium and long term, so the honey production data may have underestimated production in subsequent years; and iii) the disease known as Colony Collapse Disorder (CCD) may have significantly affected beekeeping activity and honey production, as the disappearance of bee colonies was reported in some project areas.

Sensitivity analysis

Sensitivity analysis was carried out to test the robustness of the FIRR and EIRR to changes in the values of key parameters. The results are estimated taking into account the hypothetical changes of the key variables related to the project returns on investment.

Table 3. Sensitivity analysis – Summary of scenarios tested

Scenarios	IRR (percent)
Base scenario (20-year evaluation period)	15.2 percent
Scenario 1 (20 year evaluation period, without indirect cost)	28.2 percent
Scenario 2 (20 year evaluation period, gross income increase 20 percent)	16.0 percent
Scenario 3 (20 year evaluation period, production cost increase 20 percent)	15.0 percent
Scenario 4 (20 year evaluation period, gross income increase 10 percent, production cost increase 20 percent)	15.4 percent
Scenario 5 (10 year evaluation period)	8.0 percent

The IRR base scenario was estimated for a 20-year period evaluation. Under Scenario 1 when indirect costs are omitted from the analysis, the IRR is 28.2 percent, much higher than the base scenario. Under Scenario 2 when the producer's gross income increases by 20 percent, the IRR is 16 percent. This means that the project returns are moderately sensitive to real price variations. Under Scenario 3 when the investment costs are increased by 20 percent, the IRR declines to 15 percent compared to the based scenario of 15.2 percent. Thus, changes in the cost of production do not really affect the returns on investment. This evidence reflects the main characteristics of the small farming systems that are less vulnerable to the increase of the cost production. Small farmers use more internal inputs to cope with the fluctuation of the production input costs. Under Scenario 4 when gross income and production costs are both increased by 10 percent and 20 percent respectively, the IRR of 15.4 percent does not differ significantly from the based scenario. Under Scenario 5 when the period of analysis is restricted to a 10-year evaluation period, the IRR of 8.0 percent falls below the social discount rate. This shows that the type of subprojects financed by the project need a long period to realize their maximum production potential.



The sensitivity analysis of the NPV considering the hypothetical changes in the social discount rate is shown in Table 3.

Table 3. Sensitivity analysis – Effect of changes in social discount rate

Social discount rate	3 percent	5 percent	7 percent	10 percent (base scenario)
Coffee	862,294	294,425	(138,991)	(612,806)
Eco-tourism	133,534	(108,493)	(291,037)	(487,246)
Forestry	17,732,104	14,415,804	11,859,987	9,027,942
Honey bee	(940,793)	(1,060,050)	(1,146,467)	(1,233,858)
Silvopastoral	1,208,281	952,176	755,246	537,711

The coffee, eco-tourism, forestry and silvopastoral subprojects generate positive return on investment when the social discount rate is 3 percent. Only the honey subprojects do not generate positive return on investment in any of the scenarios shown in Table 3. These results reveal that these types of subprojects can have positive returns on investment in the medium and long term, but with modest yields in comparison with projects that finance the improvement of productivity and competitiveness. It is more evident if the value of the ecosystem services are not considered in the cash flows.

2.2 Cost-effectiveness

The aggregate and disaggregate cost-effectiveness indicators are presented in the following table.

Table 4. Cost-effectiveness indicators

Categories	CPV	CPV	CPV
		USD/beneficiary/yr	USD/ha/yr
Total project	24,121,792	1,405	295
<i>Coffee</i>	3,845,603	341	135
<i>Eco-tourism</i>	2,325,257	2,558	248
<i>Forestry</i>	4,631,462	5,095	494
<i>Honey bee</i>	2,885,342	3,174	308
<i>Silvopastoral</i>	611,254	912	45

The aggregate incremental Cost Present Value (CPV) of the entire project was estimated at USD 24.1 million. The CPV per beneficiary/year and per hectare/year were USD 1,405 and 295 respectively. These values should be taken as indicative due to the lack of comparative information related to these types of projects in Mexico. In any cases, the values are in line with the average ranges of cost-effectiveness indicators reported by different public investment operations in the LAC region. The investment made under forestry and honey subprojects generated the largest social incremental costs, while the incremental cost was significantly lower under silvopastoral subprojects. Both cost-effectiveness ratios show moderate elasticity to the direct investment and beneficiaries' counterpart variations.



III. Conclusion

- The ex-post cost-benefit analysis shows that the project as a whole generated positive returns on investment. The estimated IRRs are above the social discount rate. The ex-post IRRs cannot be compared with ex-ante IRRs, as ex-ante cost-benefit analysis was not performed.
- Some financed subproject categories, such as coffee, eco-tourism and honey production, did not meet the expected results in financial and economic terms. The disappointing results could be partly related to lower-than-projected production and to lack of reliable information about production volumes. At the same time, the returns to these subprojects may have been higher than estimated, because many of the subprojects supported investments at PA level for which the benefits have not been captured in the EFA.
- The IRR shows moderate sensitivity to changes in real prices. Many of the producer organizations that implemented subprojects have put in place risk management mechanisms to mitigate the effects of the external shocks, such as the price fluctuations.
- Changes in production costs will not significantly affect the investment returns. The project financed activities that encouraged diversification in smallholder farming systems, leaving participating farmers better able to cope with fluctuations in the prices of purchased inputs.
- The ex-post cost-effectiveness analysis reveals that investments in forestry and honey subprojects were more substantial when measured as incremental costs.
- Silvopastoral subprojects were determined to be the most efficient subprojects.



Table 5. Incremental Cost Matrix at baseline

Component	Cost Category	US\$ millions	National/Domestic Benefits	Global Benefits
1. Sustainable Production Systems and Biodiversity Mainstreaming	Baseline (GoM)	10.7	Improved productivity and quality in targeted production systems. Income benefits for the producer groups targeted by the project.	Area under biodiversity-friendly production and sustainable use providing global environmental benefits such as maintaining vegetation areas that provide habitat connectivity, contributing to water uptake and slower erosion in upper reaches of watersheds.
	With GEF alternative	15.3	Benefits of the baseline scenario expanded to a larger number of producers.	Complementing the baseline development activities to expand the area under biodiversity-friendly production and sustainable use.
	Increment	4.6		
2. Producer Associations and Biodiversity friendly Market Initiatives	Baseline (GoM)	3.7	Income benefits for the members of the producer associations targeted by the project. New markets developed for biodiversity products. Increase in sales. Integration of value chains through strategic alliances. More sustainable products available for local consumers.	Demonstrating the market possibilities of sustainable use of biodiversity resources and of the implementation of biodiversity-friendly production systems. More sustainable products available to satisfy global demands
	With GEF alternative	7.3	Benefits of the baseline scenario expanded.	Benefits of the baseline scenario expanded.
	Increment	3.6		
3. Institutions, Labels and South-South Cooperation	Baseline (GoM)	2.3	Services associated with the development of value chains that include considerations of biodiversity conservation and sustainable use is strengthened (technical advisory and training; financial services; etc). Integrated programs for capacity development implemented. Framework for standards compliance strengthened.	Learning generated by the program considered in the programming or planning of related investments worldwide.
	With GEF alternative	4.6	Benefits of the baseline scenario expanded.	Benefits of the baseline scenario expanded.
	Increment	2.3		
4. Project management and monitoring	Baseline (GoM)	2.5	Strengthened local, regional and national systems for M&E the socio-economic and environmental outcomes of expected investments.	Improved knowledge of the socioeconomic and environmental benefits of market-based mechanisms to promote biodiversity conservation and sustainable use in productive landscapes.
	With GEF alternative	3.7		
	Increment	1.2		
Total	Baseline (GoM)	19.2		
	With GEF alternative	30.89		
	Increment	11.69		



ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

The following letter was received from the Borrower on June 18th, 2019 in response to a draft version of the ICR shared with Borrower:



UNIDAD COORDINADORA DEL PROYECTO SISTEMAS
PRODUCTIVOS SOSTENIBLES Y BIODIVERSIDAD

CONABIO/UCP/2019

Ciudad de México a 17 de junio de 2019.

A QUIÉN CORRESPONDA

Asunto: Comunicado sobre ICR

En relación al INFORME FINAL DE EJECUCIÓN Y RESULTADOS, (ICR por sus siglas en inglés; Informe Número ICR00004649) preparado por el Banco Mundial sobre la donación del FONDO PARA EL MEDIO AMBIENTE MUNDIAL (TF012908), y después de haber sido revisado por Coordinación Administrativa de la CONABIO, y por la Unidad Coordinadora del Proyecto de Sistemas Productivos Sostenibles y Biodiversidad, queremos manifestar nuestro pleno acuerdo con su contenido.

Desde nuestro punto de vista el documento refleja con precisión las lecciones aprendidas y los aspectos sobresalientes de incidencia en las políticas públicas.

Queremos manifestar nuestro agradecimiento al equipo del Banco Mundial por el apoyo y comprensión que hemos recibido durante la ejecución del proyecto, que es de gran relevancia para el avance de las políticas públicas orientadas a la conservación de la biodiversidad, y la sostenibilidad social, ambiental y económica de la agricultura familiar asociativa en México.

En el documento anexo hacemos comentarios menores sobre el ICR, pero reiteramos nuestro pleno acuerdo con su contenido, y felicitamos al equipo del Banco Mundial y al equipo redactor pues a nuestro parecer interpreta muy adecuadamente los alcances del proyecto.

Atentamente,

Francisco Abardía Moros
El Coordinador del Proyecto SPSB

C.c.p.

Dr. José Sarukhán Kermez, Coordinador Nacional de la CONABIO
Mtra. Ana Luisa Guzmán y López Figueroa, Secretaria Técnica del Fideicomiso Fondo para la Biodiversidad.
M.A.P. Antonio Robles Licea, Director General de Administración/CONABIO
Fabiola Maldonado Pulido, Coordinadora de Administración de la CGCRB/CONABIO.

Comisión Nacional para el Conocimiento y Uso de la Biodiversidad

Liga Periférico Insurgentes Sur 4903, Parques del Pedregal C.P. 14010 Tlalpan, Ciudad de México.
Tel. (55) 5004 4989 www.conabio.gob.mx • www.biodiversidad.gob.mx



The following comments/lessons from the Borrower were recorded through the BCR and conversations with the PIU coordinator and staff:

INNOVATIONS IN PROJECT DESIGN

Several features of the project design were innovative:

- The project reflected a new vision for financing sustainable development which regards producer associations as social subjects with the potential, experience, and ability to gradually allocate own budget in an effective and transparent manner.
- The project design increased the organizational capacity of groups and associations of farmers and allowed them to improve their skills in the areas of technical planning, business management, and marketing.
- Producers learned how to identify and adopt biodiversity-friendly practices for each selected production system as a strategy to contribute to the conservation of biodiversity and market environmentally differentiated products and services, derived from sustainable productive practices. For processing, the lessons learned by small producers and their organizations in sustainable traditional practices over the last thirty years, the quality standards required by seals and certifications of organic production, green and fair trade, academic consultations, technical advisors, all aided to encourage the adoption of more sustainable components in productive activities.
- The biodiversity-friendly business plans were developed in a participatory way with PAs, allowing them to strengthen their planning capacity, engage in hands-on management, and promote transparency in decision making.

FACTORS THAT AFFECTED THE IMPLEMENTATION OF THE PROJECT / LESSONS LEARNED

Positive factors in project implementation:

- Business partnerships formed under the project proved to be very effective in facilitating the adoption of sound practices and confronting increased competition in the market. The business partnerships were created by linking PAs to second- or third-level organizations, legally constituted and grouped according to objectives defined in the business plans, taking advantage of their strengths and previous experience
- Biodiversity-friendly business is a new and forward-looking approach. The formulation of business plans constituted an undeniable advance, as a guiding instrument and for planning of long-term debt, which in the design incorporated environmental and social safeguards, emphasizing the links in the value chain and appropriation of the links that make up this chain; from a perspective that proposes the adoption of biodiversity-friendly practices, and the pursuit of competitiveness by adding value through productivity, quality, traceability and differentiation, linking PAs with business relationships that enables best prices and income generation.



- The preparation of action plans to ensure the timely implementation of business plans, including targets and precise indicators, improved administrative and managerial capabilities of the PAs and facilitated the design of the Integrated Information Management and Evaluation System (SIGIEP) for verification and validation of data complied.
- Incorporating AB practices and strengthening existing ones, allowed generalization, ownership and commitment of the PA in execution. In addition, hiring technical service providers (TSP) who supported with training and technical assistance, to carry out their application, which was verified from the beginning of the project was a project achievement. The definition of standards that have been certified, even by a third party outside agency CERTIMEX, which from the perspective of producers was a positive outcome of the project.
- The initial publicity campaign was very effective in raising awareness about the project and led to a successful first call for proposals for subprojects in coffee, cocoa, honey, silvopastoral, forestry, and ecotourism, resulting in the selection of 27 PAs in five states (Chiapas, Tabasco, Oaxaca, Quintana Roo and Campeche), covering 144 municipalities in an area of 315.400 hectares, and giving priority to the inclusion of traditionally excluded groups such as indigenous peoples and rural communities.

Negative factors affecting the implementation of the SPSB project:

- Disbursement delays posed a significant obstacle to project implementation. The PIU counted on an efficient allocation of resources committed to the project by the Government of Mexico, with agreed disbursement timeline. Participation GEF approved funding for 38 percent of the total project cost, corresponding to 62 percent of Mexican institutions. Beginning in fiscal year 2015, however, the PIU did not receive the resources agreed with SADER, and the first contribution arrived only at the end of October 2016. In late 2018, a second contribution arrived from SADER, bringing the total amount received from SADER to \$60 million pesos. This was only 40 percent of SADER's agreed contribution. SEMARNAT contributions were received in 2013, 2014 and 2015, for a total of \$60 million pesos. This was less than SEMARNAT's agreed contribution. After 2015, SEMARNAT made no further contributions.
- The increase in the number PAs from 17 to 27, which was the most important change from the original design, led to a significant increase in the number of beneficiaries. Importantly, many of the newly added PAs were quite young and lacked maturity, which increased the workload for CONABIO and generated significant delays as the PAs struggled to achieve compliance with administrative and operational requirements of the AP.
- Many PAs had extremely low capacity. Some did not even have access to the internet. Many had difficulty following standard procedures and meeting requirements for compliance with procurement rules established by the World Bank and CONABIO. This resulted in complex paperwork and excessive and inefficient bureaucratic processes, which prolonged the procurement processes. PAs also faced a steep learning curve on processes.



Actions taken to resolve negative factors:

- The PIU worked proactively in an effort to secure the financial contribution from the government counterpart, submitting multiple formal applications and participating in numerous meetings with officials to discuss the problem. In the end, these efforts were unsuccessful.
- Given the lack of liquidity, the PIU redoubled its efforts to mobilize new funding. A formal funding request was submitted to Fomento Social Banamex (FSB) - created by the Board of the National Bank of Mexico – which approved funding in the amount of \$22 million pesos that was contributed in 2017 and 2018. This helped alleviate the budget shortfall that had resulted from the failure of the government counterpart to make good on its agreed contribution.
- During 2017, the PIU agreed with the World Bank to temporarily modify financial management arrangements to allow the use of GEF resources to support the implementation of PA business plans, pending the availability of government counterpart resources.



ANNEX 6. SUPPORTING INFORMATION

A6.1. Biodiversity Monitoring

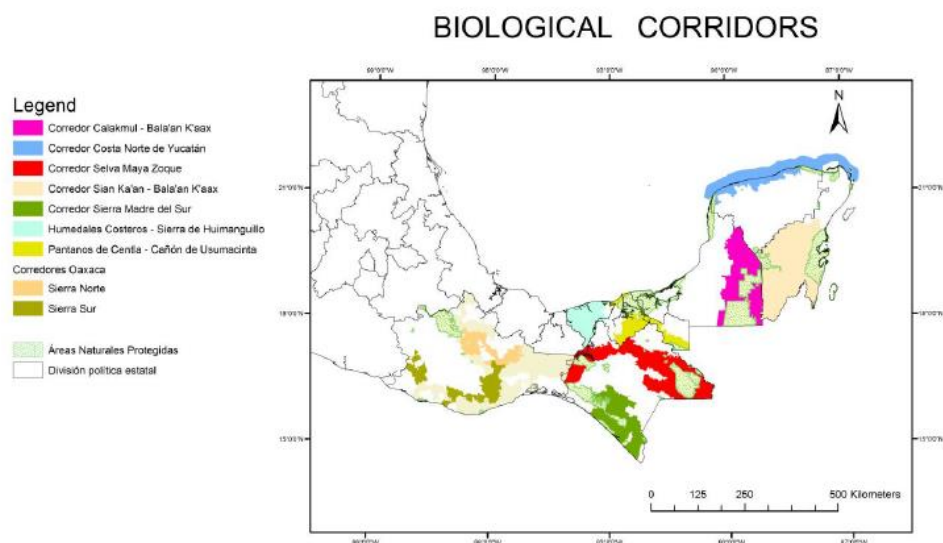
At baseline, biodiversity monitoring tools were developed, including defining the relationship between sustainable productive systems and conservation of species of biological concern. The goal of biodiversity monitoring was to demonstrate that AB practices favor the recovery and regeneration of productive areas. Through the project, 51 areas received high level monitoring, and 5 pilot PAs were provided with equipment and knowledge to monitor biodiversity within their communities. Information was captured at corridor and species levels. Biodiversity monitoring included several activities. These included first, mammal monitoring – done using photo-trapping with intensive training for producers. The productive systems held 20 species, three of them threatened and five endangered. Within the mammal community, jaguar monitoring is highlighted where the demonstration of jaguar in the communities in and of itself is a huge achievement because for a top-level predator to exist in an environment requires preservation of habitat with flourishing prey (other animals). Second, avian monitoring – censuses of birds were carried out as a baseline to the project followed by cross-cutting samples in communities to measure richness and abundance of birds observed by producers (including those under threat of extinction) during the project. A total of 388 species were recorded in the project area of the Mesoamerican Biological Corridor (MBC) of which 75 species were found in SEMARNAT's NOM059 database (6 endangered, 28 threatened, 41 under special protection), 11 species were found in the red list of the International Union for the Conservation of Nature (IUCN) (1 in danger, 2 vulnerable, 8 almost threatened).

The project showed that species of conservation concern and global significance can be monitored in productive systems. At baseline, with 95 points of contact, 105 bird species (27 percent) were identified in the project area (9 from SEMARNAT's NOM and 4 from the IUCN), and with follow-ups 63 of these species were observed by producers (60 percent) including 2 threatened species: the yellow-cheeked warbler (*setophaga chrysoparia*), and the endemic white-throated towhee (*melozone albicollis*). The observation of such a large share of species by producers signals a high degree of conservation of biodiversity in project communities. During monitoring of biodiversity, over 15,000 photographs were taken, 1 digital map was produced and 5 workshops were held to define with the PA, the protocol for sampling birds through counting points, of medium mammals by photo-trapping, of biophysical parameters of vegetation by means of hemispheric photography and ground coverage using satellite imaging, processes involving monitoring specialists from the CONABIO network, community monitors and technical teams of the PAs. Annex 6 B9, provides photographic evidence from biodiversity monitoring of the landscape of two different communities at different stages of project implementation.

The results of a consultancy “The jaguar as a key element in the biological monitoring of the project” were presented in 2017 to demonstrate habitat quality. The jaguar – as a large carnivore - is considered a key species and indicator of habitat quality in the conservation of biodiversity. To survive, the species requires large areas with prey and suitable habitat, and its presence is an indicator of good habitat. Annex 6 B10 shows a video compiled from monitoring of jaguar and other species within one community of the productive landscape and provides compelling evidence for the protection and conservation of biodiversity within the project area. As a direct result of the project, the use of the jaguar and other large carnivores for biological monitoring was included in productive systems in Panama and Colombia.



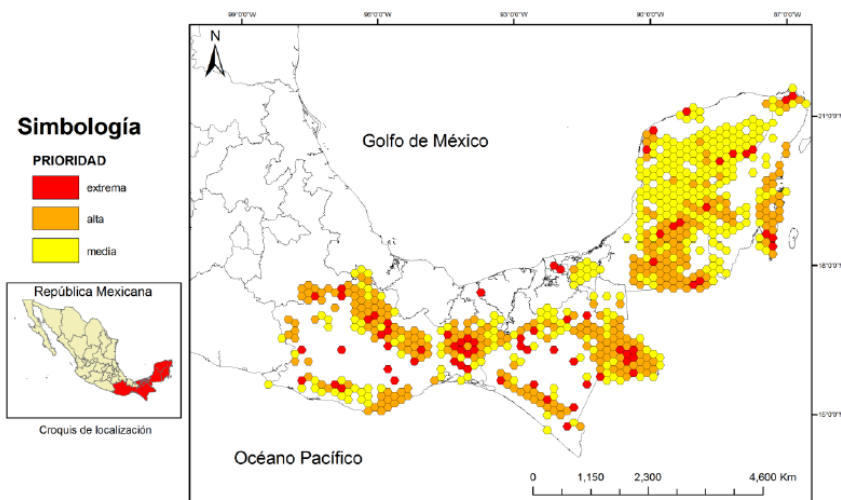
A6.2. Map of priority biological corridors with nationally and globally significant biodiversity



Fuente: Comisión Nacional para el Conocimiento y Uso de la Biodiversidad.
Elaboró: Dirección de Análisis Territorial de los Corredores y Recursos Biológicos.

A6.3. Priority Sites for Terrestrial Conservation in South East Mexico

Priority sites for terrestrial conservation in southeast Mexico



INEGI. División Municipal de México, 2010. Instituto Nacional de Estadística y Geografía. Aguascalientes, Ags.
Consejo Nacional para el Conocimiento y Uso de la Biodiversidad, 2007. Sitios prioritarios terrestres para la conservación de la biodiversidad. México D.F. Elaborado en la Dirección de Análisis Territorial de Corredores Biológicos.



B. Complementary Information Supporting Project Results/Outcomes

B6.1. Share of female producer participation by productive system

	Total	Men	Women	Share of women by system (percent)
Cacao	904	713	191	21.13
Coffee	12936	8809	4127	31.90
Ecotourism	909	626	283	31.13
Forestry	2976	2528	448	15.05
Honey	670	462	208	31.04
Silvopastoral	367	323	44	11.99
Wildlife	34	19	15	44.12
Total	18796	13480	5316	
Share (percent)		71.72	28.28	

B6.2. Subproject Selection Criteria

For the selection of a PA and subproject, an initial assessment was carried out relating to the number of PGs and producers in the association, the age of the AP, the financial characteristics of AP, and prospects for sustainability. Efforts were made to include younger and less well-established PAs.

Each subproject was required to have the following characteristics:

- It is based on a specific strategic planning framework formulated with vision in the medium term to incorporate biodiversity-friendly practices in a productive system and productive spaces of biological corridors.
- It is the result of a participatory planning exercise with a producer association (PA), the groups of producers (PG) that make it up, and the producers who are its members.
- Contractually links the CGCRB and the incumbent AP, and commits resources from both parties, through a subproject agreement.
- Its purpose, objectives, results and goals are concrete, measurable and congruent with the general planning matrix of the SPSB project and expressed in a biodiversity-friendly business plan.
- Its management is governed by periodic operational programs (POP).
- Involves the accompaniment of technical service providers (TSP), of the implementation of training and technical assistance.
- It is subject to control and monitoring procedures by the CGCRB and must comply with social and environmental safeguards and anti-corruption guidelines of the World Bank.



B6.3. Activities carried out under sub-component 3.3 “South-South exchange activities for training and technology transfer between Mexico and Mesoamerican country institutions implemented”.

The project sponsored important regional assemblies, results dissemination events and dialogue – some leading to new agreements – to promote biodiversity conservation in the Mesoamerican biological corridor (MBC). These included II Meeting of the Council of Ministers EMSA (2013); IX Meeting of national coordinators of the MBC (2013); Parallel event "Green economy and adaptation in rural production models in Latin America" in V GEF Assembly (2014); Presentation of results South-South Cooperation Program at the XV Meeting of the National Coordinators of the MBC (November 2018). These led to several actions and regional agreements. Other regional technical workshops included: Mesoamerican workshop on biodiversity monitoring in sustainable rural production (2015); Mesoamerican seminar-workshop on bio-labeling experiences and certification (2016); Workshop "Challenges and opportunities for the development of markets and the commercialization of goods and services friendly with biodiversity in Mesoamerica" (2017); and, Dialogue on Sustainable Landscapes in Mesoamerica (2018).

Important lines of action were developed by the project at the productive system level for mainstreaming AB friendly practices. To promote collaboration and technology transfer between producer associations and development agents in biodiversity-friendly production, the project fostered cooperation with Nicaragua and Panama via several technical missions. For the honey production system, technical exchanges and missions included an eight-country exchange workshop involving Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Dominican Republic. For the coffee production system, a highlight was the Regional Workshop on sustainable Coffee Production and Biodiversity in Mesoamerica. For the silvopastoral livestock system a process of defining activities for south-south exchanges in training and technology transfer for biodiversity-friendly production was carried out in 2017. In the case of ecotourism, south-south exchanges were organized with Bolivia, resulting in a course on “Biodiversity-friendly Ecotourism” in 2017, and for cacao among other activities, a Meso Bio-America Workshop to exchange experiences on the promotion and marketing of differentiated products was held in 2017. The project also led many workshops, knowledge exchanges, fairs, technical visits and other activities to strengthen institutional capacity in biodiversity-friendly production.

B6.4. Description of innovation in UTT technical units of productive systems

The technical unit for coffee created a digital library with material for use by PAs (<https://amecafe.org.mx/utt/>). The technical unit for forestry achieved the first ever exports of wood produced under biodiversity-friendly practices and obtained the first seal of Fair-Trade certification for the forestry and wood sector in Mexico. The honey system unit carried out analysis of the quality and chemical composition of honey of apis and meliponins, propolis, pollen and royal jelly to be able to determine the composition of honey produced under AB friendly practices. The ecotourism system unit developed a learning community through a platform that includes an online forum, courses, formulas to share AB experiences, virtual library and directories of service providers and allies. The cocoa technical unit did a study of the physical and chemical characteristics of soils of cocoa plantations. It also developed an innovative process of fermentation and drying of cocoa and management plans for the processes to have more competitive raw material to strengthen access to national and international markets.



B6.5. Examples of activities initiated with international and local buyers to help create business alliances

The project PIU and PAs participated in a diverse range of forums, trade shows and exhibitions to promote products and services for forming alliances with buyers. Some examples of this participation include, III World Forum of Mexican Gastronomy (2015); meetings of "Fair Trade Coffee Buying Companies"; Specialty Coffee Association of America (SCAA) forum held in Atlanta Georgia (2016); BIOFACH (2016, 2018); Forestry Expo on "Biodiversity + Technology + Productivity" (2016, 2018); Sustainable Social Tourism Summit; Chocolate Salon (2016, 2017); Food Expo (2017, 2018), and 20th edition "Coffee Expo 2017". As a result, 42 business alliances with buyers for marketing differentiated products were established, exceeding the target value of 32 (132 percent of target).

B6.6. Example of biodiversity-friendly activities and participating producer lists:



SUBPROYECTO

"Buenas prácticas cafetaleras y la comercialización de cafés sustentables" (Hacia un modelo horizontal y vertical para las buenas prácticas cafetaleras y la comercialización de cafés sustentables)"

Eje 1. Apoyo a grupos de productores en la adopción de prácticas productivas sostenibles.
Subcomponente 1.1

INFORME FINAL

"Módulos de lombricomposteo. 7 x 6 mts. 20 Láminas calibre 26. Pijas de anclar lámina. Piso de cemento de 7x6, con pendiente para coleccionar lixiviado. El criadero tiene unos 80 cm de altura por 6 por 2.5 de ancho. Inoculado con 30 kilos de lombriz.



Beneficiarios:

Org regional	censo 1995 Ok:Munic	Comunidad	Nombre completo	Sup_café
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	AI	3.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	AI	1.35
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	AI	5.5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	C	5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	C	3
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	C	6.5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	C	3.45
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	AI	5.9
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	E	11.75
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	E	2.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	E	3.2
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	E	1.7
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	G	1.5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	F	1.75
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	F	2.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	G	4.5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	G	4
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	H	2.2
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	I	5.7
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	J	2.7
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	J	3.2
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	J	5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	J	2
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	L	5.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	L	5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	L	3.2
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	L	3.45
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	M	8.8
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	M	3
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	M	1.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	P	5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	R	5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	S	2.65
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	S	5.25
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	F	1.5
ORO DEL RINCON SC DE RL	IXTLAN DE JUAREZ	SANTA MARIA ZOOGOOCHI	P	5

B6.7. Example of photo evidence provided for activity under biodiversity-friendly practices





B6.8. Example of listing of compliance with biodiversity-friendly practices for honey production PA

ubicación de las Prácticas Amigables con la Biodiversidad al cierre del POP1.

EVALUACIÓN DE LAS PRÁCTICAS AMIGABLES CON LA BIODIVERSIDAD AL DENTRO DEL POP.T.					UBICACIÓN DE APIARIOS								MANEJO DE LA COLMENA						Alta o baja producción que genera la colmena	
PRODUCTORES VILLAFLORES	APIARIOS	COLMENAS	T/ PROPOLEO	T/ POLEN	Limpieza de apiario manual sin utilizar herbicidas herramienta machete	Distanciamiento entre apiarios mínimo 3 km	Agua que beben las abejas es limpia y/o de Pozo o Arroyos	Cercado (lambre de paja) o Barrera natural (arboles)	Distanciamiento entre colmenas (1-1.5 m)	Altura de la Base 20 cm	sin pintura en las colmenas	Tapa de la Colmena en buenas condiciones (Lámina que no este oxidada)	Cera estampada Comprada	Proporción de alimentación de jarabe de azúcar Cada 8-15 días	Tipo de Alimentador (reciclado de Envases PET 600 ml)	Revisión de colmenas (8-15 días)	Número de colmenas Máximo 35 Colmenas Propietario	Distanciamiento de colmenas		
VILLAFLORES																				
JIN CRUZ MOLINA	EL TAMPOQUE 2	11	20	5	si cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	si cumple	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple	
JIN CRUZ MOLINA	EL TAMPOQUE 1	27			si cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	Si cumple	no cumple	si cumple	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple
EL MOLINA MORENO	LOS MANOS	40	60	10	si cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	si cumple	si cumple	Si cumple	Si cumple	si cumple	si cumple	si cumple	
EL MOLINA MORENO	EL JOOTE	40			si cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple
LUIS LOPEZ GONZALEZ	EL BAJO	19	50	20	si cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	no cumple	si cumple	si cumple	si cumple	no cumple	si cumple	si cumple	si cumple	si cumple	
LUIS LOPEZ GONZALEZ	BETHEL	30			no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	si cumple	En proceso	si cumple	si cumple	si cumple	no cumple	si cumple	si cumple	si cumple
Y CRUZ GOMEZ	LA AURORA	25	100	50	no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple	
Y CRUZ GOMEZ	LAS MINAS	25			no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
Y CRUZ GOMEZ	EL BAJO	25			no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
Y CRUZ GOMEZ	MULATO	25			no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
ETH CRUZ GOMEZ	EL CARMEN	33			no cumple	si cumple	si cumple	si cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
ETH CRUZ GOMEZ	EL TIORE	35			no cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
ETH CRUZ GOMEZ	LA CABAÑA	40			no cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
ETH CRUZ GOMEZ	LA LOMA	30			no cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple
ETH CRUZ GOMEZ	SAN BARTOLO	25			no cumple	si cumple	si cumple	no cumple	Si cumple	Si cumple	Si cumple	Si cumple	En proceso	si cumple	si cumple	Si cumple	si cumple	si cumple	si cumple	si cumple

B6.9. Example showing sales by a PA of biodiversity-friendly goods, documented at producer level



Centro de Agroecología San Francisco de Asís A.C.

Red Maya de Organizaciones Organicas

Control de Inventarios										Bodega		Cacao	
Bodega: San Jose										Esp.		Comercialización	
										Ene		Dic	
Ref.	Fecha	Nombre del Productor	Comunidad	Municipio	No. Sacos	No. Sacos de Yute	No. Sacos de Henequen	Kilos Brutos	Kilos Tara	Yute	Henequen	Kilos Netos	Kilos Netos
1	01/06/2015	Plan de Ayala	Huehuetan	4	4	0	217.00	4.00	-	-	-	213.00	213.00
2	01/06/2015	Plan de Ayala	Huehuetan	4	4	0	258.00	4.00	-	-	-	254.00	254.00
3	01/06/2015	Plan de Ayala	Huehuetan	4	4	0	258.00	4.00	-	-	-	254.00	254.00
4	01/06/2015	Plan de Ayala	Huehuetan	7	7	0	439.00	7.00	-	-	-	432.00	432.00
5	01/06/2015	Plan de Ayala	Huehuetan	2	2	0	116.00	2.00	-	-	-	114.00	114.00
6	06/07/2015	Kicho	Escuintla	13	13	0	790.00	13.00	-	-	-	777.00	777.00
7	06/07/2015	La victoria	Mazatan	16	16	0	939.00	16.00	-	-	-	923.00	923.00
8	06/07/2015	Llano de Lima	Tapachula	4	4	0	237.00	4.00	-	-	-	233.00	233.00
9	06/07/2015	Llano de Lima	Tapachula	17	17	0	1,015.00	17.00	-	-	-	998.00	998.00
10	06/07/2015	Rancheria Grijalva	Escuintla	4	4	0	226.00	4.00	-	-	-	222.00	222.00
11	06/07/2015	Rancheria Grijalva	Escuintla	2	2	0	134.00	2.00	-	-	-	132.00	132.00
12	06/07/2015	Santa Cruz de la Unión	Vila Comattian	3	3	0	190.00	3.00	-	-	-	187.00	187.00
13	19/10/2015	Plan de Ayala	Huehuetan	7	7	0	439.00	7.00	-	-	-	432.00	432.00
14	19/10/2015	Plan de Ayala	Huehuetan	2	2	0	127.00	2.00	-	-	-	125.00	125.00
15	19/10/2015	Plan de Ayala	Huehuetan	4	4	0	226.00	4.00	-	-	-	222.00	222.00
16	19/10/2015	Plan de Ayala	Huehuetan	8	8	0	440.00	8.00	-	-	-	432.00	432.00
17	02/11/2015	Alvaro Obregon	Tapachula	55	55	0	1,706.00	55.00	-	-	-	1,651.00	1,651.00
18	16/11/2015	Francisco Sarabia	Tuzantan	30	30	0	1,813.00	30.00	-	-	-	1,783.00	1,783.00
19	16/11/2015	Francisco Sarabia	Tuzantan	5	5	0	326.00	5.00	-	-	-	321.00	321.00
20	16/11/2015	Francisco Sarabia	Tuzantan	16	16	0	1,004.00	16.00	-	-	-	988.00	988.00
21	16/11/2015	Francisco Sarabia	Tuzantan	2	2	0	102.00	2.00	-	-	-	100.00	100.00
22	16/11/2015	Grijalva 2	Escuintla	11	11	0	710.00	11.00	-	-	-	699.00	699.00
Inventario a la Fecha					220	220	0	11,712.00	220.00	0.00	0.00	11,492.00	11,492.00
Producto Acopiado de Productores que incorporan las practicas AB										%		3,293.00	
Merma en Maquila										0.93%		29%	
Total de Producto Vendido										0.93%		30.66	
Total de Venta según Facturas										11,385.00		11,385.00	
% de Venta de Productores AB (POP-1)										28.65%		28.65%	

B6.9. Example of a receipt submitted to the SIGIEP system for sales of AB goods



DATOS DEL EMISOR

CAS000906K11

FACTURA
CENTRO AGROECOLOGICO SAN FRANCISCO DE ASIS SA

Página 1 de 1

17 CALLE ORIENTE 82 B CENTRO ENTRE 5a.
AVENIDA NORTE Y 7a. AVENIDA NORTE
Tapachula Chiapas México 30700

FOLIO FISCAL

NO. DE SERIE DEL CERTIFICADO DEL SAT / NO. DE SERIE DEL CERTIFICADO DEL CSD / LUGAR, FECHA Y HORA DE EXPEDICIÓN

Tapachula, Chiapas

SERIE Y FOLIO

FORMA DE PAGO

RÉGIMEN FISCAL

A - 292

Pago en una sola exhibición

General de Ley P. M

DATOS DEL RECEPTOR

LUGAR DE ELABORACIÓN

: 2015-08-05T10:07:29

Transferencia

CANTIDAD	UNIDAD DE MEDIDA	DESCRIPCIÓN	PRECIO UNITARIO	IMPORTE
1200.00	Kilo	DE CACAO CRIOLLO BIOLOGICO ORGANICO EN GRANO "LEGENDARIO CACAO MAYA DEL ANTIGUO SOCONUSCO" SECADO AL SOL ORIGEN CHIAPAS-MEXICO CERTIFICADO POR: IMO-UE EMPACADO EN CAJAS DE CARTON COSECHA: 2015	\$ 30	\$ C.300.00
TOTAL CON LETRA			Importe	\$ 0.00
SEIS MIL SEISCIENTOS DOLARES, 00/100 USD			Subtotal	\$ 0.00
Este documento es una representación impresa de un CFDI			IVA (0%):	\$ 0.00
			TOTAL	USD \$ 0.00
			1 USD = 15.48 MXN	



Sello Digital del CFDI:

ApTKq2GcIqDvad8pXXa21QoYGR3H3UoVnTfCbdSUIuHkV/3CRUoa8c8PSm4AvPARyFhhpoMrab4bC/9+7sV/LanMYRoBoieVgheXLQTZR0hRX0BV73FtsUn07XCcBUpndLmENYoe5SGmdTj9BALhWVU3qWt+ucq2I0=

Sello del SAT:

ZcQJo1EmyAsySPYtsuOKODTQgqvthJRymH2+Tlms7CaqoCeYICJ0hKAS+Qth+9BWbd+F+0+2bHX83m77wPKW0bUYe77z+FLyUSH791tp1z8BVVJocN+eW1UcdnQ/Yrc4+OmYUJ67yue7qHmGUTSL=

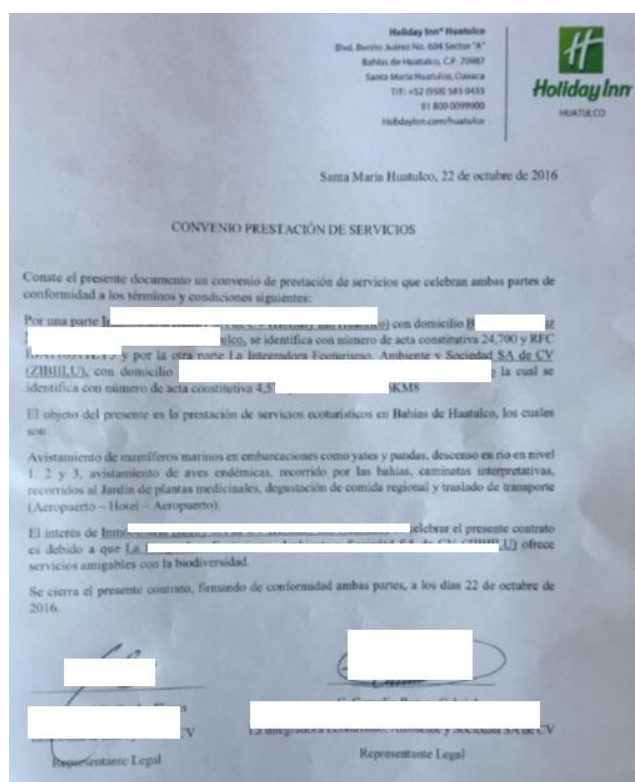
Cadena Original del complemento de certificación digital del SAT:

[[L0IS5RCBIB+889+4F38-A2A1-893775E18C50]2015-08-05T10:07:29]ApTKq2GcIqDvad8pXXa21QoYGR3H3UoVnTfCbdSUIuHkV/3CRUoa8c8PSm4AvPARyFhhpoMrab4bC/9+7sV/LanMYRoBoieVgheXLQTZR0hRX0BV73FtsUn07XCcBUpndLmENYoe5SGmdTj9BALhWVU3qWt+ucq2I0= [00001000000203495276]]



Folios
Digitales

B6.10. Examples of evidence provided for business alliances set up for commercialization of AB products



B6.11. Examples of labels created for instruments of differentiation





B6.12. Photographic evidence from biodiversity monitoring of the landscape of different communities at different stages of project implementation.

**Fotografía aérea de
bacadilla. Ejido Nohbec.
Altura de vuelo: 100
mts.
Fecha de adquisición: 8
de febrero de 2017.**

Edad: 1 año



**Fotografía aérea oblicua
de área de corte.
Comunidad Santiago
Comaltepec. Altura de
vuelo: 120 mts.
Fecha de adquisición: 13
de marzo de 2017.**

Edad: 3 años





B6.12. Video evidence collected within a productive landscape of biological corridor in the project area of monitoring of the Jaguar.



El Jaguar como
elemento clave.avi

B6.13. Details on third party verification by CERTIMEX and regional consultants

In each of the verifications, the basic data of each PA were reviewed: the producer groups that comprise it, the number of producers, the communities that participate, the level of implementation, and the progress of the internal control system. With this information, on-site verification was scheduled. CERTIMEX determined the status of adoption for each of these PAs and then developed proposals for improving adoption and registering the outcomes within the SIGIEP systems (CERTIMEX summary of findings and CERTIMEX individual reports for each association, 2018).

Following CERTIMEX consultation, regional consultants were hired to monitor and verify compliance with on-site goals, where random samples were selected for field verification. The verification exercise was undertaken as the project entered its closing phase as a consolidation and accounting exercise as well, to allow the results achieved to be evidenced. The following sequence of activities was undertaken by the technicians to verify the reliability of information: (i) review the actual physical evidence (in paper or electronic) files that each subproject had been reporting throughout the implementation of activities established in each acquisition plan; (ii) establish a plan for verification visits for each of the subprojects; (iii) conduct verification visits in coordination with technical service providers of each PA, including randomized checking in the field of biodiversity-friendly practices; (iv) enter validated information into SIGIEP M&E system.



B6.14. Photo evidence of third-party verification by CERTIMEX of each productive system



1. Verification of practices (e.g. measurement of shade) in cocoa PA:



Imagen 1 Medición de la Sombra. Cortesía Hernan Martinez



2. Verification of production practices in coffee PAs:



Imagen 3 Producción de café ciclo 2018-2019, producto de la renovación de los cafetos y del manejo orgánico



3. Verification of practices and coverage in forestry:



Imagen 4. Cobertura vegetal en bosque de pino en la Sierra Juárez de Oaxaca



4. Verification of practices in silvopastoral PAs:



Imagen 3. Sistema Agroecopastoral en la sociedad Pomarosa. Cortesía de César Armando Durantes

5. Verification of practices in honey PAs:



Imagen S.Apiario con Meliponas. Cortesia Manuel Morales Gonzalez



6. Verification of practices in ecotourism PAs:







B6.15. Table: Types and Characteristics of Biodiversity-Friendly Productive Investments

Productive System	Sustainable biodiversity-friendly production investments	Institutional strengthening and standards	Market access
COFFEE	<ul style="list-style-type: none"> -Investments in new machinery and infrastructure to improve quality of coffee (this includes processing equipment and packaging material) -Renewing coffee plantations (including homogenization of varieties, purchase of arboreal planting material, pest control and prevention of diseases). -Establishment of the varietal garden as alternative to counteract pests and diseases (mainly rust). -Construction of a baselines (vegetation structure, presence of migratory and resident birds) to guide the coffee plantation renewal plan. -Soil studies by region to update the plans of nutrition and correction of nutritional deficiencies. - Construction of three community museums for environmental education. -Installation of rainwater collection system. - Preparation of parceling pilot of a greenhouse roof. 	<ul style="list-style-type: none"> -Implementation of internal inspection processes for biodiversity-friendly production practices and fair trade. -Project producers participating in the Cup of Excellence, Mexico (2017) receiving first place in this coffee expo -Conservation certificate under standards of the United States Department of Agriculture National Organic Program of America (NOP-USDA), and under the guidelines for organic operations Agricultural Activities (LOOAA) Mexico. -Advance the biodiversity-friendly certification process and fair trade by CERTIMEX SC 	<ul style="list-style-type: none"> -Production of specialty coffees with biodiversity-friendly attributes and certification. -Participation in Biofach Germany fair (2017) to promote products
COCOA	<ul style="list-style-type: none"> - Investment in seeds for native cocoa plants, fruit and timber species for diversification of cacao plantation. -Investment in community nurseries and planting of fruit trees for getting direct benefits to each producer and increase fruit biodiversity. 	<ul style="list-style-type: none"> -Design of software for internal control system of certification program for fine aroma cocoa. 	<ul style="list-style-type: none"> -Certification of biodiversity-friendly fine aroma cocoa by Mayacert. -Strengthening business partnerships for Criollo cocoa trade at competitive prices.



	<ul style="list-style-type: none"> -Investments in cocoa collection infrastructure, which made it possible to obtain better quality cocoa. -Investment in cacao-cultura tools. -Investment in organic fertilizer to increase production and improve quality. 		
HONEY	<ul style="list-style-type: none"> -Investments in equipment for production and extraction of honey (Meliponas boxes, beekeeping equipment), and collection centers (food grade stainless steel extractor, storage, and transportation). -Investments in training of biodiversity-friendly pest control. - Investment in technical assistance for hatchery establishment for Queen Bees' use and conservation of native bees (e.g. workshops on breeding of stingless bee hives). -Investments in PA environmental education through workshops in public schools, members of ejidos, and producers. 	<ul style="list-style-type: none"> -Training and certification of the integrated management of the hive by the Register of Institutions and Scientific and Technological Enterprises (REINICYT) -Laboratory analysis of physical, chemical and toxic waste properties of honey taking many samples of honey and wax. - Working towards certification of biodiversity-friendly honey. 	<ul style="list-style-type: none"> -Adding honey cinnamon bloom to the list of differentiated honey available through PAs. -Implementing launch events to promote products and, where appropriate, build and / or strengthen business alliances in the labor market
ECOTOURISM	<ul style="list-style-type: none"> -Investments in installing comprehensive energy management system (including solar and wind powered light systems) for ecotourism centers/resorts. -Investments in equipment for camping and ecotourism activities (including non-powered boats with low-impact on marine life and mountain bikes). -Investments in construction of ecological dry toilets within the productive spaces. -Investments in installation of stormwater collection systems in 	<ul style="list-style-type: none"> -Implementation of the Diploma of Tourism Oriented Nature (per the Mexican Official Standard NOM-09-TUR-2002) with the aim of intensifying the process of certification and training. -Development of waste management points for reduced use of non-renewable resources, and separation of solid waste. -Development of 	<ul style="list-style-type: none"> -Design and implementation of promotional campaigns, which have increased the flow of visitors. -Participation in social and sustainable tourism summit. -Attendance of tourism adventure travel expo Mexico, 2017 for dissemination, trade and tourism learning nationally and internationally



	resorts.	regulations for tourism service providers and visitors.	
SILVOPASTORAL	<ul style="list-style-type: none"> -Investments in dividing paddocks with hedgerows, allowing greater exploitation of pastures and improvements in the quality of produce. -Investments in rainwater collection systems in paddocks. 	<ul style="list-style-type: none"> -Design, brand creation and request for registration with the IMPI. 	<ul style="list-style-type: none"> -Attending expos on silvo-pastoral shows in Chiapas and Mexico City to promote products.
FORESTRY	<ul style="list-style-type: none"> -Investment in generating a local participatory environmental monitoring system (EMS). -Investments in environmentally-friendly pest control methods. -Investment in wood drying equipment, metallic furnaces for production of charcoal. -Investments in nurseries for high quality plant production. -Investment in equipment like chilling rooms. -Training workshops for packaging and better product selection. -Investments in firefighting equipment for forest protection. -Assessment of impacts from application of forest sanitation, and treatment response of forest regeneration. 	<ul style="list-style-type: none"> -Design and establishment of a corporate identity, moving towards an upcoming trade mark registered with the IMPI. -Training sellers on the use, management and promotion of biodiversity-friendly timber, and importance of recognizing their origin and forest certification. -Maya Forest Alliance has achieved the first exports of wood with biodiversity-friendly practices through the first stamp of fair trade certification for forestry and timber. 	<ul style="list-style-type: none"> -Initiated distribution and sales of timber products with shops, and development of alliances (with restaurants, tourist locations etc.) -Redesigning presentation of products for sale (3kg., 10kg., 15kg.)



ANNEX 7. SUPPORTING DOCUMENTS

Documents used for ICR:

WORLD BANK DOCUMENTS:

All internal documents related to the project can be found at:

<http://operationsportal.worldbank.org/secure/P121116/home?tab=documents>

Project Appraisal Document (66664-MX)

Loan Agreement

GEF Grant documents

Restructuring Paper

Implementation Supervision Reports (ISR)

Supervision Aide Memoires

Technical Supervision Reports

Quarterly Reports

Semester Progress Reports

Procurement Post-Reviews

Financial Management Supervision Reports

Audit Reports

Country Partnership Framework (CPF) and draft Systematic Country Diagnostic (SCD)

STUDIES/REPORTS

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- Rojas Canales, M. d., & Rivers Valdez, A. (February 2012). Environmental Assessment Report, Project Sustainable Production Systems and Biodiversity.
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