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IMPLEMENTATION COMPLETION AND RESULTS REPORT

IBRD LOAN 8120-MX IN THE AMOUNT OF US$350.00 MILLION

AND

STRATEGIC CLIMATE FUND-FOREST INVESTMENT PROGRAM (SCF-FIP) LOAN TF011570
IN THE AMOUNT OF US$16.34 MILLION

AND

STRATEGIC CLIMATE FUND-FOREST INVESTMENT PROGRAM (SCF-FIP) GRANT TF011648
IN THE AMOUNT OF US$25.66 MILLION

TO THE

UNITED MEXICAN STATES

FOR THE

MEXICO FORESTS AND CLIMATE CHANGE PROJECT (P123760)

August 28, 2018

Environment & Natural Resources Global Practice
Latin America and Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {July 13, 2018})

Currency Unit =	Mexican Peso (MXN)
18.84 MXN =	US$1
US$ 0.053 =	1 MXN

FISCAL YEAR
July 1 - June 30

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ABBREVIATIONS AND ACRONYMS

AD	Activity Data
ADL	Local Development Agent *(Agente de Desarrollo Local)*
APDT	Territorial Development Public Agent
ATL	Local Technical Agent *(Agente Técnico Local)*
BP	Bank Procedure
C&E	Communities and Ejidos (*Comunidades y Ejidos*)
CFE	Community Forest Enterprise (*Empresa Forestal Comunitaria*)
CO2	Carbon Dioxide
CONAFOR	National Forestry Commission (*Comisión Nacional Forestal*)
CONANP	National Commission for Natural Protected Areas (*Comisión Nacional de Áreas Naturales Protegidas*)
CONEVAL	National Council for the Evaluation of Social Development Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*)
COP	Conference of Parties
CPS	Country Partnership Strategy
DPL	Development Policy Loan
EA	Environmental Assessment
EDI	Economic Development Index (*Índice de Desarrollo Económico*)
EF	Emissions Factor
EMF	Environmental Management Framework
ER	Emissions Reduction
FA-EDI	Forest Activities Economic Development Index
FAO	Food and Agriculture Organization of the United Nations
FCCP	Forests and Climate Change Project (*Proyecto Bosques y Cambio Climático, PBCC*)
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program
FM	Financial Management
FREL	Forest Reference Emissions Level
GDP	Gross Domestic Product
GEF	Global Environment Facility
Gg	Gigagram (=1 million Kg = 1,000 tonnes)
GHG	Greenhouse Gas
GOM	Government of Mexico
Ha	Hectare
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
INECC	National Institute of Ecology and Climate Change *(Instituto Nacional de Ecología y Cambio Climático)*

INEGI	National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*)
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
LA	Loan Agreement
LULUCF	Land Use, Land Use Change and Forestry
M&E	Monitoring and Evaluation
MRV	Monitoring, Reporting and Verification (*Monitoreo, Reporte y Verificación*)
MTR	Mid Term Review
NAFIN	National Financial Agent *(Nacional Financiera)*
NDP	National Development Plan (*Plan Nacional de Desarrollo,* PND)
NPV	Net Present Value
OP	Operational Policy
PAD	Project Appraisal Document (*Documento de Evaluación del Proyecto*)
PDO	Project Development Objective (*Objetivo de Desarrollo del Proyecto*)
PES	Payment for Environmental Services (*Pago por Servicios Ambientales*)
POM	Project Operational Manual (*Manual Operativo del Proyecto, MOP)*
PROCAMPO	Farmers Direct Support Program (*Programa de Apoyos Directos al Campo*)
PRODEFOR	Forest Development Program (*Programa de Desarrollo Forestal*)
PRONAFOR	National Forest Program (*Programa Nacional Forestal, ex. PRODEFOR*)
REDD+	Reduction of Emissions from Deforestation and Forest Degradation
REDD+ EAA	REDD+ Early Action Area
RF	Results Framework (*Marco de Resultados*)
SA	Social Assessment
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Food (*Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación*)
SEMARNAT	Ministry of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*)
SFM	Sustainable Forest Management (*Manejo Forestal Sostenible*)
SHCP	Ministry of Finance and Public Credit (*Secretaria de Hacienda y Crédito Público*)
SIGA	Comprehensive Support Management System (*Sistema Integral de Gestión de Apoyos*)
SIGECO	Geographical Information System
SNMRV	National Monitoring, Reporting and Verification System *(Sistema Nacional de Monitoreo, Reporte y Verificación)*
SOI	Social Organization Index (*Índice de Organización Social*, IOS)
TF	Trust Fund
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P123760	Mexico Forests and Climate Change Project
Country	**Financing Instrument**
United Mexican States	Investment Project Financing
Original EA Category	**Revised EA Category**
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
United Mexican States	CONAFOR

Project Development Objective (PDO)

Original PDO

The PDO is to support rural communities in Mexico to sustainably manage their forests, build social organization, and generate additional income for forest products and services including from REDD+.

FINANCING

	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing			
IBRD-81200	350,000,000	291,558,228	291,558,228
TF-11570	16,340,000	16,340,000	14,694,547
TF-11648	25,660,000	25,660,000	25,660,000
Total	**392,000,000**	**333,558,228**	**331,912,775**
Non-World Bank Financing			
Borrower	383,000,000	333,000,000	196,408,188
Total	**383,000,000**	**333,000,000**	**196,408,188**
Total Project Cost	**775,000,000**	**666,558,228**	**528,320,963**

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
31-Jan-2012	20-Nov-2012	24-Aug-2015	28-Feb-2017	28-Feb-2018

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US$M)	Key Revisions
14-Aug-2015	139.20	
17-Jan-2017	253.15	Change in Results Framework Change in Loan Closing Date(s) Reallocation between Disbursement Categories

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	03-Apr-2012	Satisfactory	Satisfactory	0
02	10-Nov-2012	Satisfactory	Satisfactory	0
03	22-Jun-2013	Satisfactory	Satisfactory	40.65
04	07-Jan-2014	Satisfactory	Satisfactory	54.57
05	01-Jul-2014	Satisfactory	Satisfactory	81.36
06	22-Jan-2015	Satisfactory	Satisfactory	140.07
07	23-Sep-2015	Satisfactory	Satisfactory	153.54
08	01-Apr-2016	Satisfactory	Satisfactory	182.46
09	07-Dec-2016	Satisfactory	Satisfactory	239.22
10	27-Jun-2017	Satisfactory	Satisfactory	254.02
11	22-Dec-2017	Satisfactory	Satisfactory	280.52

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	**100**
Public Administration - Agriculture, Fishing & Forestry	9
Forestry	91

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	**100**
Jobs	100

Urban and Rural Development	**17**
Rural Development	17
Land Administration and Management	17
Environment and Natural Resource Management	**130**
Climate change	96
Mitigation	50
Adaptation	46
Renewable Natural Resources Asset Management	34
Biodiversity	17
Landscape Management	17

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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. **At appraisal, the Mexican economy was beginning to recover from a deep contraction of economic activity following the global economic and financial crisis.** As a relatively open economy, Mexico was hard hit by the collapse of international trade in late 2008 and early 2009. Annual economic growth fell to 1.3% in 2008 and Gross Domestic Product (GDP) declined by 6.5% in 2009. In line with global recovery in production and trade, and responding positively to the Government's countercyclical fiscal and monetary policies, economic activity in Mexico picked up in the second half of 2009 and overall GDP grew by 5.5% in real terms in 2010.

2. **During this time, the Government of Mexico (GOM) was implementing a comprehensive development agenda, as outlined in the 2007-12 National Development Plan (NDP), and the forestry and climate change agenda was among its priorities.** The World Bank had been collaborating with the GOM in the areas of forestry and climate change for almost two decades, with this collaboration having evolved from an emphasis on institutional strengthening and community forestry program development to the strengthening and consolidation of community forestry efforts. Two C*ommunity Forestry Projects* (P007700 and P035751) had helped indigenous and other rural communities raise their standard of living through improved forest management. The World Bank had also supported an *Environmental Services Project* (P087038) aimed at enhancing the provision of services of national and global significance, as well as an *Indigenous and Community Biodiversity Project* (P066674).

3. **The forestry sector provided strategic, social, and environmental contributions to the country's economy as well as rural livelihoods, but required improved local management capacity, longer-term vision, and commitment to sustainability by agrarian nuclei (communities and e*jidos*,** C&E).[1] Approximately 70% of the country's forests were community owned.[2] However, during preparation, only 15% of the 15,584 C&E managed their forests in accordance with an approved forest management plan.[3]

4. **Mexico also faced the challenge of high rates of deforestation and forest degradation.** Direct drivers of deforestation and forest degradation included conversion of forest lands to pasture and agriculture, unsustainable logging, overgrazing, and pests and diseases. Some of the underlying causes included insufficient alignment of policies, institutions, and programs across sectors, a deficient incentive framework for sustainable forest use, and communities' insufficient capacity and access to markets.

[1] A community is a population grouping with legal personality and holder of agrarian rights recognized by executive or restorative order, or by resolution confirming ownership of forest lands. An *ejido* is an association of peasant farmers that are owners of common property assigned to them by the State.

[2] As detailed in the Forests and Climate Change Project (FCCP) Project Appraisal Document (PAD), p. 4 (Report No: 65959-MX). Forests in Mexico include: temperate forest, tropical forest, dry tropical forest, mangroves, semiarid zones, and arid zones, among others.

[3] "Atlas de Propiedad Social y Servicios Ambientales, realizado por el Registro Agrario Nacional 2012", cited by "Facultades y responsabilidades del manejo forestal y del suelo ante REDD+ en México", Center for International Forestry Research (CIFOR) 2016, page 1.

5. **The GOM was committed to reducing deforestation and forest degradation and assisting C&E in better managing their forest resources.** Since the 1990s, the Government had helped C&E manage their resources through a series of community-based incentive and advisory programs. In many cases, these public investments contributed to a decline in forest loss and created jobs and incomes. While the financial viability of this model was still uneven and forest degradation was still high, the community forestry approach was seen by the GOM as a central piece of its social development and poverty alleviation strategies in forested regions. At the close of the United Nations Framework Convention on Climate Change (UNFCCC) 16th Conference of Parties (COP 16) held in Cancún in late 2010, the GOM requested the World Bank's (WB's) support in preparing a large project to deliver on its commitment to improve forest management, to be financed with government, loan, and grant resources.[4] The project would provide an innovative approach to strengthening community forest management, expanding the focus beyond solely forest areas to the broader landscape, be prepared in less than ten months, and be ready before the upcoming elections and change in Government.

6. The project would also be the first supported by the Forest Investment Program (FIP), with parallel support from the Forest Carbon Partnership Facility (FCPF). In addition, it would also benefit from close collaboration and coordinated efforts with the Global Environment Facility (GEF) / United Nations Development Programme (UNDP) *Biodiversity in Production Forests and Certified Markets Project* and the Norwegian Government's *Strengthening Preparation for REDD+ Program*.

7. **In this context, the Forests and Climate Change Project (FCCP) was conceived as one of the key elements of the Bank's broader strategic engagement supporting GOM's agenda on forests and climate change.** The project was in line with the Bank's enhanced business model in Mexico at the time, aligning with five of the six pillars of the World Bank Group's Mexico Country Partnership Strategy (CPS) for the period of FY08-13 (Report No. 42846-MX) and with Mexico's 2007-12 NDP.[5][6] The project was designed to contribute to broader efforts by complementing other instruments being mobilized,[7] collaborating with six operations,[8] and coordinating with other partner organizations.[9] The focus was not only on delivering the project's development objectives, but also on providing support to relevant local agencies and agents (Ministry of Environment and Natural Resources (SEMARNAT), Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Food (SAGARPA),

[4] The project represented the Bank's largest forestry project, with US$350 million in IBRD financing and US$42 million in Forest Investment Program (FIP) financing.

[5] Mexico's 2007-2012 NDP - Axis 4. Environmental Sustainability: Sustainable Utilization of Natural Resources; Environment Protection; Knowledge and Culture for Environmental Sustainability -p. 231.

[6] Mexico's 2013-2018 NDP - Objectives, strategies and lines of action: VI.4. - Prosperous Mexico - Objective 4.4.: "Boost and guide and inclusive and facilitating Green growth that preserves our natural patrimony while at the same time generates wealth, competitiveness and employment"-p. 134.

[7] As detailed in FCCP PAD - p. 1, para. 2.

[8] According to FCCP PAD (p. 10, para. 31), the project "would be closely coordinated with the following operations: (i) the forestry pillar of the proposed IBRD US$300 million Social Resilience to Climate Change Development Policy Loan (DPL); (ii) the euro 300 million budget support operation from the French Development Agency which uses the same forestry policy matrix as the Bank's Social Resilience to Climate Change DPL; (iii) the US$3.6 million Readiness Grant from the Forest Carbon Partnership Facility and a potential future FCPF Carbon Fund Emissions Reduction Payment Agreement; (iv) the US$11.7 million Sustainable Production Systems and Biodiversity Global Environment Facility Project; (v) the proposed US$18 million Innovative Financing Instruments project to be funded under the FIP and implemented by *Financiera Rural* with the Inter-American Development Bank; and (vi) the NOK90 million grant from Norway for the MRV system to be implemented with UNDP and the Food and Agriculture Organization (FAO).'

[9] Inter-American Development Bank (IDB), French Development Agency, Forest Carbon Partnership Facility, GEF, FIP, Norway. Project appraisal Document, Forests and Climate Change Project. FCCP PAD -p. 11.

community advisory services, etc.) to strengthen aspects such as: monitoring and evaluation (M&E), knowledge sharing, cross-sectoral coordination and harmonization of efforts at territorial level, and technical support.

Theory of Change (Results Chain)

8. The project was "part of the package of Bank engagement in support to Mexico's ambitious, cutting-edge, Forests and Climate Change agenda within the overall framework of Mexico's National Development Plan, as well as its vision for REDD+ (Reduction of Emissions from Deforestation and Forest Degradation)."[10] In an effort to strengthen community forest management, the project aimed to strengthen the social organization and managerial and technical skills of C&E,[11] with a view to ensuring the longer-term sustainability of rural investments and improving the livelihoods of rural populations. Within this context, the following elements were incorporated into project design:

   ▪ the **development objective** aimed to strengthen social organization and sustainable forest management by C&E in ways that would generate additional income from forest products and services, as well as reduce emissions from deforestation and forest degradaton. The focus on social organization was a novel and necessary approach for enhancing C&E development, and aligned with a vision of long-term sustainability. The outcomes of social organization and generation of additional income were to be measured primarily by two indexes, the Social Organization Index (SOI) and the Forest Activities Economic Development Index (EDI), which were originally designed by two researchers at the Institute of Social Research of the Metropolitan Autonomous National University (UNAM in Spanish). These indexes provided an assessment of C&E's ability to manage their changing conditions, in terms of growing agriculture pressures on forests, land tenure reforms, the competitiveness of timber markets, migration of C&E members, among others. Specifically, the SOI measured C&E's participation in local institutions and assemblies, organizational structures of agrarian communities, collective decisions taken in assemblies regarding the use of forest resources, and C&E members' level of participation in forest management. The EOI measured C&E's level of participation in forest management, access to forest product markets, equipment ownership, ability to independently finance technical services, enterprise profitability, among others. Details and methodology of the indexes are provided in Annex 7.

   ▪ **project activities** included: providing capacity building and financial support to C&E in improved forest management, planning and implementation of innovative forestry production techniques, increased forest production and productivity, and fostering C&E economic development by diversifying and promoting new income options from forestry in rural landscapes—including the creation and strengthening of Community Forest Enterprises (CFEs) to promote value chains, expanded access to markets, and improved competitiveness. Project activities also provided payment to C&E in exchange for environmental services, such as restoring ecosystems in degraded areas, and provided the National Forestry Commission (CONAFOR), the project implementing agency, with capacity building to strengthen its monitoring and evaluation systems, including project results, policy design, participatory processes, knowledge sharing, administration and advisory capacity, and its cross-sectoral collaboration with other agencies involved in rural development at the federal level.

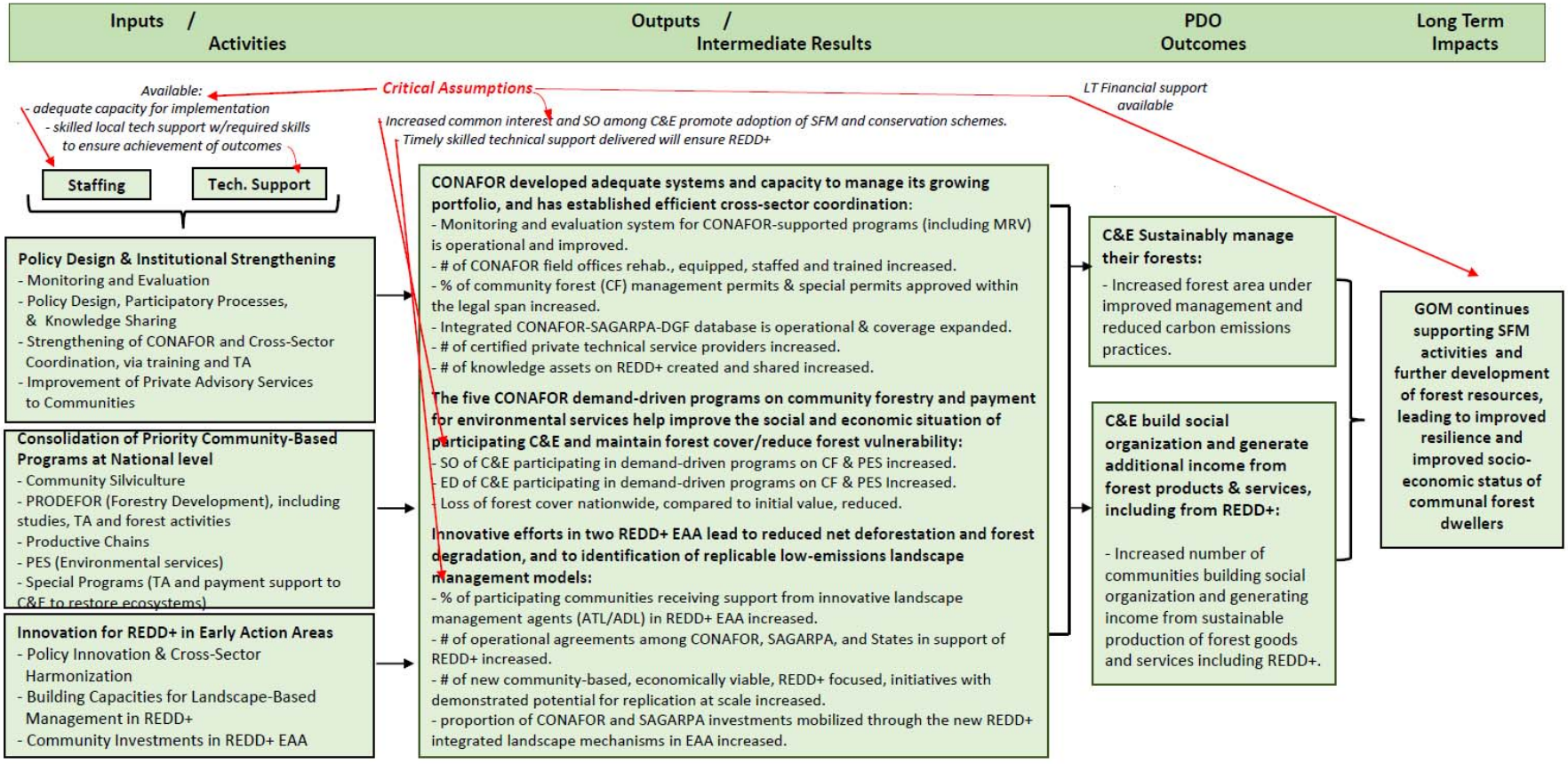
[10] FCCP PAD (p. 5, para. 9). The full meaning of REDD+, as approved in the Cancun COP in December 2010, is "Reducing Emissions from Deforestation and Forest Degradation, as well as Sustainable Management of Forests, and Conservation and Enhancement of Forest Carbon Stocks."

[11] Building social organization refers to the carrying out of activities to promote, strengthen, and consolidate community institutions and local development processes for the collective and sustainable management of forest resources.

▪ **key outputs** sought included more C&E applying for -and more forest area under- sustainable forest management (SFM) and conservation schemes. Outputs also aimed at diversifying forest-based production by diversifying forest income opportunities, as well as reducing the net deforestation and forest degradation rate in selected landscapes.

9. **As shown in the chart below, the project aimed to provide C&E with capacity building, planning and implementation support to increase forest production and productivity, and hence strengthen their social organization, management of forest resources, and income opportunities.** Via the project's direct support of forest sector demand-driven incentive programs, communities were provided with the tools (capacity building and investment support) to strengthen and consolidate community institutions, manage forest assets sustainably, including enhance the contribution of forests to climate change mitigation and adaptation, promote and strengthen forest value chains, and develop innovative REDD+ approaches.

Theory of Change (Results Chain): Mexico Forests & Climate Change Project (P123760)



10. Regarding expected long-term impacts, the PAD[12] states that the project "contributes to the higher-level objective of ensuring the sustainable management, restoration and expansion of Mexico's forest resources, while prompting local socioeconomic development among poor forest rural communities including indigenous peoples, strengthening local communities' resilience to climate change, and spearheading the global effort on REDD+."[13] Furthermore, at PDO level, it highlights that the "project would help consolidate and improve CONAFOR's incentive programs for community forestry and environmental services, and utilize them as key elements of the National REDD+ strategy. It would also help strengthen CONAFOR, as a world-class forest management agency, promote the alignment of rural development policies and programs, and pilot innovative REDD+ approaches in Early-Action Areas."[14]

Project Development Objectives (PDOs)

11. As per the Loan Agreement (LA), "The objective of the Project is to support rural communities in the territory of the Borrower to sustainably manage their forests, build social organization, and generate additional income from forest products and services including from REDD+."[15]

Key Expected Outcomes and Outcome Indicators

Objective Outcomes	Relevant Outcome Indicators
▪ **Objective 1:** Rural communities **s**ustainably manage their forests	- Increase in forest area under improved management and reduced carbon emissions practices (number of hectares, or percentage increase). - Reduction of net deforestation and forest degradation rate in selected landscapes within REDD+ Early Action Areas.
▪ **Objective 2:** Rural communities build social organization and generate additional income from forest products and services, including from REDD+	- Increase in number of communities building social organization and generating income from sustainable production of forest goods and services (number of communities, or percentage increase), including REDD+.

[12] Note PDO provided in FCCP PAD, p. 5, para. 9.

[13] RF achievements depicted in Annex 1 A and B, and Summary of "Impact Evaluation of Mexico's Payments for Ecosystem Services Program 2011-2014" (p. 23) of segment "C. EFFICIENCY" below, provide background information with regards to what extent did this ambitious contribution took place.

[14] During appraisal, Early Action Areas were identified in the State of Jalisco and the Yucatan Peninsula for their REDD+, learning, implementation, and replication potential, and were included in Mexico's FIP Forest Investment Plan.

[15] It must be noted that the project only focused on "forest-dependent" C&E, who were the only beneficiaries. This made it impossible to support other landowners, such as small landowners, producer groups, or individuals living within C&E. For a fully integrated landscape approach, it is important to support these other potential beneficiaries in addition to C&E. Thus, a broader beneficiary definition has been incorporated in a follow-on Bank-supported project (Strengthening Entrepreneurship in Productive Forest Landscapes Project). In addition, PDO in PAD is slightly different ("*to support rural communities in Mexico to sustainably manage their forests, build social organization, and generate additional income from forest products and services including the Reduction of Emissions from Deforestation and Degradation (REDD+)*") but as per ICR guideline LA PDO will be used.

Components (US$725M estimated total project cost; US$333M Borrower, US$350M IBRD, US$42M FIP)[16]

12. **Component 1. Policy Design and Institutional Strengthening.** (Estimated total cost US$91.66M [IBRD US$30M, FIP grant US$11.66M, and GOM US$50M]); Actual total cost: US$56.90M [IBRD US$5.04M, FIP grant US$20.82M, and GOM US$31.04M]) Provision of technical assistance (including training) and goods, and financing of operating costs (including analytical work and workshops) for:

- *Subcomponent 1.1. – Monitoring and Evaluation*: (i) strengthen CONAFOR's monitoring and evaluation systems; (ii) design and implement a comprehensive, National REDD+ Monitoring, Reporting and Verification System (*Sistema Nacional de Monitoreo, Notificación y Verificación*, SNMRV); and (iii) monitor results and carry out strategic evaluations of the Forest Investment Plan.

- *Subcomponent 1.2. – Policy Design, Participatory Processes, and Knowledge Sharing*: (i) draw lessons, through studies and workshops, from ongoing environmental services and community forest programs and propose adjustments to CONAFOR rules to achieve greater integration among said activities; (ii) achieve, *inter alia*, greater integration and synergies among policies and programs related to forestry, agriculture, and other economic activities in rural landscapes; (iii) design innovative REDD+ institutional arrangements to pilot in REDD+ Early Action Areas; (iv) facilitate successful implementation of the project (including on safeguard issues); (v) inform and consult with indigenous peoples, local communities and other forest communities on REDD+, SFM, and related issues; (vi) carry out workshops for indigenous peoples, local communities, and other stakeholders involved in the management of forest landscapes in REDD+ Early Action Areas; and (vii) disseminate and exchange lessons and experiences on REDD+ and implementation of the Forest Investment Plan.

- *Subcomponent 1.3. – Strengthening of CONAFOR and Cross-Sector Coordination*: (i) modernize CONAFOR's administration and advisory capacity, and promote sharing of good practices and technologies; (ii) support overall Project management—coordination, reporting, fiduciary and safeguards related activities; and (iii) foster cross-sector coordination between CONAFOR and other agencies at federal level, involved in rural development (such as, SEMARNAT and SAGARPA) by creating joint databases and streamlining the administrative framework for community-based forest management.

- *Subcomponent 1.4. – Improvement of Private Advisory Services to Communities*: (i) train a roster of qualified professionals to be hired by C&E to advise them in preparation and implementation of activities under Component 2 and Subcomponent 3.3; and (ii) design and implement a service provider quality accreditation and certification scheme for Private Advisory Services qualified professionals.

13. **Component 2. Consolidation of CONAFOR Priority Community-Based Programs at National Level.** (Estimated total cost US$585.00M [IBRD US$320M; GOM US$265M]; actual total cost: US$440.52M [IBRD US$286.52M; GOM US$154.4M]). Provision of support to C&E to help them combine SFM with socio-economic development, enhance forest's contribution to climate change mitigation and adaptation, and generate additional income opportunities, thus making sustainable management more economically attractive through: (i) Community Forestry Program (*Silvicultura Comunitaria*), to promote, strengthen, and consolidate community institutions and local development processes for collective and sustainable management of forest resources; (ii) Forestry

[16] While the GOM provided parallel financing under Component 1, the GOM provided co-financing for CONAFOR's community forestry programs (SFM, PES, etc.) under Components 2 and 3. Project results are attributed to both sources of financing.

Development Program (*Programa de Desarrollo Forestal* – PRODEFOR[17]), to support forest C&E strengthen their capacities to manage productive forests sustainably, including studies to prepare environmental impact assessments and forest management plans, silvicultural activities, activities to improve forest technologies, and technical assistance; (iii) Productive Chains (*Cadenas Productivas – Programa de Integración de Cadenas Productivas*), to promote and strengthen forest value chains established by CFEs to add value to their timber and non-timber forest products, expand markets and improve competitiveness; (iv) Payment for Environmental Services Program (*Pagos por Servicios Ambientales del Bosque*), to provide payments to C&E in exchange for provision of environmental services which benefit people, other than land users, in Payment for Environmental Services (PES) Areas; and (v) Special Programs (*Programas Especiales*), to provide technical assistance and payments to C&E to restore ecosystems in degraded areas, and/or to restore and conserve ecosystems in coastal watersheds and other areas with high deforestation rates.

14. **Component 3. Innovation for REDD+ in Early Action Areas**. (Estimated total cost US$48.34M [FIP grant US$14m grant and FIP loan US$16.34m, and GOM US$18m]); actual total cost: US$30.49M [FIP loan US$14.69M, FIP grant US$4.84M, and GOM US$10.96M]). Provision of technical assistance (including training), goods, support to beneficiaries, and financing of operating costs for:

- *Subcomponent 3.1 – Policy Innovation and Cross-Sector Harmonization for REDD+*: design innovative REDD+ approaches, and pilot them in REDD+ Early Action Areas under Subcomponents 3.2 and 3.3, including (i) alignment of forestry, agriculture and livestock policies and programs managed by CONAFOR and SAGARPA, and improvement of the overall carbon balance in rural landscapes; (ii) tailoring or customization of CONAFOR's forestry incentive programs, and adjusting their eligibility criteria and procedures to promote REDD+ practices at the community and landscape level; (iii) supporting emergence of new local governance agents, such as local technical agents (ATL)[18] and local development agents (ADL)[19] allowing for broader spatial integration at the landscape level; and (iv) development of specific operational rules for the implementation of Subcomponent 3.3.

- *Subcomponent 3.2 – Building Capacities for Landscape-Based Management in REDD+ Early Action Areas*: to, *inter alia*, (i) strengthen the capacities of ADL and ATL; (ii) assist beneficiaries to identify and implement innovative REDD+ Early Action Subprojects; (iii) establish coordination mechanisms to effectively develop and implement participatory regional land-use plans; (iv) enable integrated cross-sector actions to support sustainable economic activities in forest landscapes; (v) assist C&E to implement REDD+ Early Action Subprojects; (vi) coordinate efforts for monitoring and evaluation of REDD+ activities; and (vii) identify and disseminate lessons learned in REDD+ Early Action Areas for potential future scaling up of REDD+ landscape initiatives to other regions in the country.

- *Subcomponent 3.3 – Community Investments in REDD+ Early Action Areas*: provide financing, in the form of community subsidies, for C&E to carry out REDD+ Early Action Areas Subprojects, focusing on local needs with broad transformative effect and potential for replication, aimed at reducing emissions from deforestation and forest degradation. Subprojects include activities for reducing emissions from deforestation and forest degradation such as, sustainable forest management, protection of environmental services, enhancement of

[17] PRODEFOR was discontinued in 2015 and absorbed by PRONAFOR, under which all forest-related programs were bundled including the -Component 3- Special Programs.

[18] ATL means a local technical agent *(agente tecnico local)*, i.e., any of the local public agencies with a mandate in integrated rural development, including intermunicipal associations, which will provide support to ADL and to C&E under Subcomponent 3.2.

[19] ADL means a local development agent *(agente de desarrollo local)*, which may be a local NGO or civil society organization, which will provide technical assistance to C&E under Subcomponent 3.2.

carbon stocks in forest landscapes, agroforestry, sustainable use of non-timber products, and promotion of alternative low carbon sustainable community-based activities, to be carried out in REDD+ Early Action Areas.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

Revised PDOs and Outcome Targets

15. The PDO was not formally revised during implementation.[20] The PDO and Intermediate Results Indicators, as well as associated outcome targets were revised, as detailed below.

16. The need to strengthen the project's Results Framework (RF) was determined and addressed during the early stages of implementation.[21] In particular, indicator measurement methods and indicator definitions required refinement, as many lacked clear measurement methodologies. Needed improvements to resolve these issues were reviewed, agreed upon, and routinely reported. Following the Mid-term Review (MTR), there was agreement between the Bank and the GOM[22] to formally revise the RF as part of the project's second restructuring on January 17, 2017.[23]

17. Required modifications to the RF included: (i) refining measurement methodologies of some project indicators, in particular those focused on measuring deforestation, forest degradation, and greenhouse gas (GHG) emissions [measurability]; (ii) adjusting the description of some indicators, in particular the PDO-level Results Indicators, to clarify which activities supported would be monitored and measured to make them more precise [specificity]; and (iii) revising some baselines and indicator target values [observability], in line with the actual pace of project implementation. Specific reformulation included, *inter alia*:

    - clarifying which areas of project support would contribute to indicator achievement;
    - clarifying the definition of "improved management" (PDO Indicator 1, "PDO I-1"), as well as "building social organization and generating income from sustainable production of forest goods and services, including REDD+" (PDO I-2 and Intermediate Results indicators 2.1 and 2.2); and
    - avoiding the double counting of forest area or number of beneficiaries who received support for multiple project-supported activities: when capturing "amount of forest area under improved management" in PDO I-1, or "number of communities" in PDO I-2 (prior to the change, a forest area or a community could be counted several times if they received multiple forms of support).

[20] While the PDO was not formally modified during implementation, the PDO statement was updated in the MOP during implementation to clarify that rural communities referred to forest communities and that the project's REDD+ support was not solely linked to income generation: "The project aims to support forest communities in Mexico to sustainably manage their forests, strengthen their organization and increase their income from the sale of forests products and services, and will also support REDD+."

[21] From AM 2-5 December 2013, pp.3-5, onwards.

[22] The revision of the project's RF was imminent since the project's very early implementation and was agreed during missions with the counterparts. However, it could only be formalized later during project implementation due to a Government internal review process that was requested to take place as part of the RF revision, which in the end strongly delayed restructuring. Note: beyond the delay in the revision, it is fair highlighting that regular reporting of revised RF information was ongoing since year two of implementation.

[23] Refer to "Other Changes" section -para. 24- "Second Level 2 Restructuring – January 17, 2017"-p. 15 below.

18. Through a thorough consultative process between the WB and CONAFOR, with methodological contributions from a United Nation's Food and Agriculture Organization (FAO) team on the Social Organization Index (SOI) and Economic Development Index (EDI), the following modifications to the RF were introduced:

    ▪ PDO I-1 would only measure forest area managed by C&E under the following improved management practices: PES; certification in good forest management practices; PES within REDD+ special programs; improved sustainable forest management (of timber and non-timber products, and wildlife); and community investments in REDD+ Early Action Areas. These programs were selected since they can be measured in hectares. This approach clarified which project-supported programs were being assessed under this indicator, and which practices communities were benefiting from.

    ▪ PDO I-2 would count each C&E that received support under the project only once, independent from the number of programs/practices the C&E benefited from. This adjustment required that all support already provided to communities from the project's outset be cross-checked to ensure there was no double-counting.

    ▪ PDO I-3's measurement methodology was updated to use the SNRMV, including official country databases from the National Institute of Statistics and Geography (INEGI) and the National Forest Inventory, that provide information on soil use and vegetation cover. The definition of the indicator was reformulated to better reflect information from national data sources.[24]

19. Updating PDO Indicators in accordance with the above-mentioned revisions, PDO Indicators were updated as follows:
    ▪ PDO I-1: "Increase of forest area managed by communities and *ejidos* under sustainable management practices" – End Target changed from 10% to 95%.
    ▪ PDO I-2: "Increase in communities and *ejidos* that apply sustainable management and conservation schemes" – End Target changed from 20% to 35%.
    ▪ PDO I-3: Changed from "Reduction of net deforestation and forest degradation in selected landscapes within REDD+ Early Action Areas" to "Reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas" – End Target: 10%.[25]

20. To comply with WB core indicator requirements, an indicator -internally referred to as PDO I-4[26]- was introduced at the WB's request, to track the cumulative number (without duplication) of beneficiaries supported. While this indicator was not formally included in the RF in the January 2017 restructuring, it did provide complementary information to PDO I-2's measurement of the active or current number of beneficiaries for each annual reporting period. PDO I-4 reflects the overall, cumulative number of beneficiaries and also provides a disaggregation by gender and indigenous beneficiaries.

21. Formulation of indicators. Some indicator definitions were refined to make them more precise and better aligned with the revised methodologies.[27]

[24] A detailed matrix of revisions made to RF indicators, along with explanation of the changes implemented to methodologies and targets is included in Annex 1.D.
[25] Restructuring Paper, Report No: RES21441, 19 January 2017 -p. 6-8.
[26] Referred to in the November 2016 AM -p. 5, para. 13.
[27] As in Footnote 13 above, see Section B., Revised Results Framework and PDO Indicators for full details -p. 12-14-; also, as explained in Revised Results Framework and PDO Indicators, Annex 1.D.

22. Target values. The adjustment of indicator target values was extensive, covering 14 out of the project's 17 indicators. However, only one end-of-project target value was reduced, while the majority were increased. In addition, the baseline value was corrected for a few (3 out of the 17) indicators. Adjustments, mostly upwards as most end-of-project targets had already been surpassed, allowed the RF to more accurately capture project results. It is worth noting revisions to key PDO Indicators, for example, PDO I-1 and I-2, in which target values were increased by 85 and 15 percentage points, respectively.

23. A matrix, summarizing revisions made to the RF indicators, including intermediate indicators, along with an explanation of the changes made to methodologies and targets, is included in Annex 1.D.

Revised Components

24. While the project maintained its original structure throughout implementation, and no changes were made to project component activities,[28] project component costs were less than originally estimated as reflected in paragraphs 12-14 above. This was due primarily to the volatility in the dollar-peso exchange rate, which increased by almost 70% over the course of project implementation. In fact, the expenditures planned in national currency equivalent for the project were disbursed by more than 100%. In this same respect, the amount contributed by the Government in pesos represented 76.26% of the amount originally programmed. In addition, CONAFOR's contributions extended beyond the financial contributions indicated, including investments in CONAFOR personnel, as well as associated office and equipment investments.[29]

Other Changes

25. The project was restructured twice during implementation.

▪ First Level-2 Restructuring – August 14, 2015.[30] In response to a GOM request, changes were made to ensure the uniform inclusion of PES expenditures, referred to as "REDD+ EAA support" (REDD+ Early Action Area), as eligible expenditures under the project's three funding sources. Hence, such payments were added as eligible expenditures under the FIP Loan Agreement (TF011570), FIP Grant Agreement (TF011648), as well as the IBRD Loan Agreement. Also, inconsistencies between the description of REDD+ EAA Subprojects in the PAD and the legal agreements were corrected, which, in turn, helped address low disbursement rates. Low disbursement had been due to the PES activity inadvertently not being included as an eligible expenditure in the legal agreement disbursement tables. Once this necessary restructuring was completed, CONAFOR was reimbursed for PES activities (under Component 3.3), that CONAFOR had already paid for but hadn't previously been able to submit a disbursement request for reimbursement. Some additional changes, mostly semantic, were also made to the project's legal agreements.

▪ Second Level-2 Restructuring – January 17, 2017.[31] This second restructuring included the following changes: extension of the project's closing date, reallocation of FIP Grant proceeds between categories, and adjustments to the RF to better capture and reflect anticipated project achievements.

[28] However, it is worth noting that through the launch of the FCPF and successful implementation of the REDD+ readiness window, the entire REDD+ agenda was prominently driven from the FCPF with inputs from Components 1 and 3 of the FCCP.
[29] These indirect costs are estimated at US$48.9 million.
[30] Restructuring Paper, Report No. 89271-MX
[31] Restructuring Paper, Report No. RES21441.

- *Extension of Closing Date*: based on a request from Ministry of Finance and Public Credit (SHCP), National Finance (NAFIN), and CONAFOR, a 12-month closing date extension, to February 28, 2018, was approved for the project's IBRD Loan, and FIP loan and grant, as part of the restructuring. This extension allowed for support to be provided to activities that build on project successes and help ensure the sustainability of key project investments. These activities included (i) strengthening cross-sectoral coordination between CONAFOR and other agencies (SEMARNAT and SAGARPA) and unifying the agencies' databases for community forest management; (ii) strengthening CONAFOR's roster of qualified private technical service providers, certified to provide advisory support to communities; (iii) building capacity of communities and staff on technical aspects of forest management, silviculture, and marketing of forest products; (iv) carrying out activities to strengthen forest value chains established by community forest enterprises; (v) providing payments to communities in exchange for environmental services; (vi) aligning forestry, agriculture and livestock policies and programs managed by CONAFOR and SAGARPA and customizing CONAFOR's forestry incentive programs to promote REDD+ practices at the community level; and (vii) providing technical and financial support to communities carrying out REDD+ activities. The continued support of these activities aimed to sustain project achievements in community forest management, as well as continue piloting investments that will be scaled-up under Mexico's Emission Reduction Program, which is in the early stages of negotiations.

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

26. Knowledge gained early on during project implementation made it possible to detect methodological and definition issues regarding the project's monitoring and evaluation system that required changes, and revisions to the RF were made accordingly. Revisions targeted the three PDO-level indicators, as well as most of the intermediate results indicators. The results of these changes included: better defined and more realistic indicators and, for the most part, higher targets -as most of the original target values had already been surpassed.

27. The changes introduced strengthened the results chain and provided a clearer understanding. As such, these changes did not have negative implications on the underlying assumptions which, rather, were strengthened. Once reformulated and agreed upon, changes were immediately implemented and greatly enhanced the functioning and accuracy of monitoring activities. These changes allowed results to be more in line with the actual level of activities on the ground, and a better reflection of outcomes achieved. All changes were formalized as part of the 2017 restructuring.[32]

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

28. **The PDO was and continues to be highly relevant to the priorities of Mexico.** The PDO was aligned with the Bank's CPS objective (FY2008-2013, Report No. 42846-MX) of "assuring environmental sustainability," as well as CPS priorities of accelerating growth, improving competitiveness, promoting social inclusion and reducing poverty, and strengthening institutions. The PDO remains relevant to the Bank's current CPS

[32] See Restructuring Paper, Report No: RES21441, 19 January 2017.

(FY2014-2019, Report No. 80800-MX) and Mexico's 2013-2018 NDP, supporting GOM's increased focus on productivity and inclusive and sustainable growth, as well as the country's Nationally Determined Contribution. For example, the PDO objectives of supporting rural communities in sustainably managing their forests, building social organization, and generating additional income are aligned with CPS Pillar 1 - Unleashing Productivity [33] through the project's support in generating a competitive business environment to further enterprise creation and fostering innovation for productivity and competitiveness; while the PDO objective of supporting rural communities in sustainably managing their forests is also aligned with CPS Pillar 4 – Promoting Green and Inclusive Growth,[34] given the project's focus on using natural resources in an optimal and sustainable manner, including forests, biodiversity and water management and renewable energy.

29. Project objectives were consistent with national plans (Mexico's 2007-2012 NDP) to address deforestation, forest degradation, and climate change. The project has remained important and retained Government support. In addition, the project introduced several innovative practices, fostering innovation for productivity and competitiveness of CFEs, as well as increasing support for poorer forest communities, and useful experience was gained to guide future operations. The project has played an important role in strengthening Mexico's capacity in implementing its National REDD+ Strategy, by strengthening information systems, monitoring reporting and verification systems, safeguards, among others, which are expected to be utilized in a future REDD+ Emissions Reduction Program. **The relevance of PDO is rated High.**

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

30. The PDO to support rural communities in the territory of the Borrower to sustainably manage their forests, build social organization, and generate additional income from forest products and services including from REDD+ was substantially achieved. The project has been successful in supporting rural communities in sustainably managing their forests, strengthening their social organization, and increasing their income from forest products and services through CONAFOR's community incentive programs, offering goods, services, and technical support to C&E to improve forest management, strengthen their social cohesion, as well as increase their productive assets. Specifically, CONAFOR's incentive programs cover a comprehensive range of activities on forest lands related to social organization, capacity building, land-use planning, sustainable forest management and protection, as well as the extraction, processing, and marketing of forest goods and services. Achievements of the project's development objective are discussed in more detail below.

(a) Rural communities sustainably manage their forests

31. Under the project, support was provided to 265,632 beneficiaries through CONAFOR's demand-driven, community incentive programs, which included technical and financial support for communities to develop and implement the following types of forest management activities: community land-use plans, PES,

[33] CPS FY2014-FY2019, "Unleashing Productivity" -p. 17-, "Toward a more competitive business environment" and "Fostering innovation for productivity and competitiveness"-p. 18.

[34] CPS FY2014-FY2019, "Promoting Green and Inclusive Growth" -p. 24-, "Reducing the footprint of growth" -p. 24-, and "Using natural resources in an optimal way"-p. 26.

sustainable forest management, community management, processing and marketing activities, certification, among others. By year 5 of the project, the current area of forests managed by C&E under sustainable management practices had increased by 117%, and by 92% in year 6, as compared to the baseline.[35] In terms of forest area, the area managed by C&E under sustainable management practices doubled during project implementation, and at project completion, this area represented 3,935,984 ha, a significant increase of 1,833,358 ha compared with the 2,050,626-ha baseline. In addition, the percentage of C&E applying sustainable management and conservation schemes had increased by 69% in 2016, and by 36% in 2017, and 374 additional C&E were certified under national and international standards in recognition of their good forest management practices.

32. The capacity building provided and improvements made to strengthen the enabling environment for sustainable forest management played an important role in the achievement of these results. For example, project support for improved monitoring systems (e.g., SIGA) was key in helping CONAFOR plan, target, and budget for community incentive programs. The project's provision of local community technical support and advisory services (e.g., development of a roster of certified technical service providers) was critical in ensuring communities received adequate technical guidance in preparing and implementing forest management activities.

33. Also, the increase in the number of communities sustainably managing their forests had an important impact on reducing forest degradation and deforestation (e.g., project PES support resulted in a 25-50% reduction in deforestation). Project support also led to a reduction in GHG emissions from deforestation and forest area degradation of 562 Gigagrams (Gg) of CO2 equivalent in REDD+ early action areas, from 11,469 Gg of CO2 equivalent at (adjusted) baseline[36] to 10,907 Gg of CO2 equivalent at project completion. This represented a 5% decrease from baseline. While this result was lower than originally anticipated (i.e., represented 50% of the end-of-project indicator target), the lower-than expected results in part reflect a series of measures undertaken by CONAFOR to continuously improve the accuracy of GHG measurements. The original baseline (Forest Reference Emission Level, or FREL) of 18,992 Gg of carbon dioxide (CO_2) per year was calculated using incomplete data. The FREL was subsequently updated by CONAFOR, by taking into consideration methodological improvements made to the SNMRV for REDD+. These improvements were carried out as part of the development of the National Inventory of Emissions of Greenhouse Gases for the Land Use, Land Use Change and Forestry (LULUCF) sector, and resulted in an adjusted baseline of 11,469 Gg of CO_2 equivalent, calculated as the historical average of emissions for the 2000-2010 period, while the end-of-project target indicator value remained unchanged.

34. The project supported significant methodological improvements to CONAFOR's SNMRV, improving the transparency and accuracy of data collected for improved monitoring of GHG emissions. Enhancements to the SNMRV covered, inter alia, unbiased Activity Data (AD) acquisition, the process of AD estimation in accordance with the Intergovernmental Panel on Climate Change 2003 and 2006 guidelines, methodological

[35] The original baseline was 0%, with an end-target of 10% increase, but by late 2014 the target had already reached 20%, surpassing the end-target estimate by 100%. Given this, the original end-target was revised as part of the 2017 restructuring (Report No: RES21441 -p. 7- "Revised PDO Indicator 2"). It is important to note that these end-of-project values are not cumulative. Values are not carried over to the next year if the managed area does not remain under a sustainable management program. Thus, only actual valid areas are accounted for. The reductions in year 6 reflect budget adjustments within CONAFOR.

[36] As a Forest Reference Emissions Level expressed as a historical average in Gg of CO2-eq per year, for the States of Jalisco, Yucatán, Campeche, y Quintana Roo.

improvements in estimating forest degradation Emissions Factors (EF), and improvements in the biomass and carbon estimation system. Taking into consideration the extent of methodological improvements made during implementation, results extend far beyond the final percentage of emissions reductions attained vis-à-vis the end-of-project target.[37] These improvements are also important for the REDD+ Emissions Reduction Program that is currently under preparation.

(b) Rural communities building social organization (measured by SOI)

35. The achievement of this objective was measured via an SOI index, developed for intermediate results indicator 2.1 (see Annex 7 for details on methodology). The SOI provided an assessment of C&E's ability to manage their changing conditions, in terms of growing agriculture pressures on forests, land tenure reforms, the competitiveness of timber markets, migration of C&E members, among others. Specifically, the SOI measured four components: C&E's participation in local institutions and assemblies, organizational structures of agrarian communities, collective decisions taken in assemblies regarding the use of forest resources, and C&E members' level of participation in forest management. If surveys showed the four components to reach a score 90%, or alternatively three of them to reach 100%, social organization was considered very high. The end of project survey results indicated that social organization reached high and very high levels. Between 2011 and 2016, surveys no longer detected very low and low levels of social organization and medium levels had decreased by 22%, high levels of social organization had a slight (5%) decrease, and very high levels had increased by 260% (see figure A7-1 in Annex 7). Overall, the survey results indicate that the project successfully supported C&E in improving their social capital. These results were possible given that C&E approved subprojects (incentive programs) in a participatory manner, ensured that key decisions were made in an assembly, supported the development of land-use plans, among others.

(c) Rural communities generating additional income from forests products and services (measured by EDI)

36. The achievement of this objective was also measured via an index (the EDI index), developed for intermediate results indicator 2.2 (Annex 7 also provides details on this indicator's methodology). The EDI provided an assessment of C&E's ability to increase their economic development via their ability to diversify forest production, adopt new technologies, access forest markets, and increase their income. The EDI measured seven components: C&E's level of vertical integration along the timber value chain, timber product utilization in accordance with a forest management plan, infrastructure and equipment ownership, C&E members' participation in forest management, access to timber and non-timber forest product markets, C&E ability to independently finance technical services, and the profitability of forest management processes. If the surveys indicated that the C&E had diversified its forest products, owned required equipment, participated in timber and non-timber forest product markets, and had a profitable forest enterprise, the C&E was considered to have a very high level of economic capacity. The survey results indicate that high and very high levels of economic development grew by 74.8% at project completion, as compared to the baseline. A more detailed review indicates that between 2011 and 2016, very low levels of economic activity decreased by 15%, medium levels grew by 51% and very high levels grew by 321% (see figure A7-2 in Annex 7).

37. Further, an assessment of 32 CFEs transitioning to managed productive forest with greater value addition (utilizing data from a UNDP GEF Biodiversity in Productive Forest Project implemented from 2012 to 2016)

[37] See AM 28 February 2018, Final Results – Indicator PDO l-3 -p. 3-4-, and CONAFOR presentations.

indicated that CFEs who improved their productive forest management also increased their income generation. The average annual forest income of the 32 CFEs participating in the GEF project was US$1.3 million in 2016, a 20% increase compared to 2015. This represented a benefit of approximately US$7 million in 2016 to the landholders due to forest productivity increases. Further details on this assessment are provided in Annex 4.

Justification of Overall Efficacy Rating

38. Efficacy is rated **Substantial.** Project objectives were substantially achieved, as evidenced by the communities sustainably managing forests, building social organization, and generating additional income. The project met the majority of PDO and Intermediate Outcome targets, as well as the results of evaluation surveys and studies. The project's outcomes provide an important basis for future Bank support. A follow-on forest management project, with an integrated landscape approach and which recently became effective, is building on project successes and ensuring continuity in the area of community forest management. In particular, this follow-on project focuses on strengthening entrepreneurship in forest landscapes. In addition, the project's support in helping prepare a national REDD+ mechanism, via pilot investments, institutional strengthening, and monitoring, reporting and verification (MRV) enhancements, helps provide a strong foundation for a future REDD+ Emissions Reduction Program.

C. EFFICIENCY

Assessment of Efficiency and Rating

39. Overall Efficiency is rated **Substantial** as the efficiency is what would be expected in the environment sector and project resources and inputs were economically converted to results**.**

40. Economic efficiency: The ICR economic analysis follows the same logic as that of the PAD, focusing on the PES program (see Annex 4). From an economic perspective, the PES program benefits depend on: the degree to which it succeeds in avoiding deforestation or degradation that would have occurred in the absence of the program; the difference in the value of the desired services generated by conserved forests compared to the value of the services that would be generated by degraded forests or under alternative land uses; and on the opportunity cost of conservation and the incremental cost of the program. As in the PAD, a full cost-benefit analysis cannot be conducted because of the difficulty of measuring many of the benefits. Accordingly, as in the PAD, a break-even analysis was conducted, comparing measurable benefits to costs and assessing whether they are sufficient by themselves to justify the program, and if not whether it is likely that the un-measured benefits would be sufficient to do so, if they could be measured**.**

41. *Costs*. In areas that would not have been conserved without PES, the upper value of opportunity costs is about 75% of the payment amount, and thus ranges from about MXN210/ha/yr (about US$10) to MXN800/ha/yr (about US$40), depending on the area, or about MSX300/ha/yr (about US$15) on average. Conversely, these forest activity costs are borne even when there is no additionality, so the upper bound on costs of participation ranges from about MXN70/ha/yr (about US$4) to MXN275/ha/yr (about US$13), depending on the area, or about MSX100/ha/yr (about US$5) on average. The incremental costs of the programs add about US$3/ha/yr to these amounts.

42. *Benefits*. The PES program aims to generate a variety of benefits. Of these, however, only carbon sequestration can be estimated. Current guidance[38] is to estimate global project benefits with emissions reductions valued at the social value of carbon (SVC), under 'low' and 'high' estimates. Benefits to Mexico based on the price expected to be paid under their emission reduction agreement with the Carbon Fund (about US$5/tCO2, of which about 20% is needed to cover the costs of MRV), are also estimated.

43. *Additionality*. The extent to which the PES program actually reduces deforestation is a critical variable.[39] Some participants would have conserved forests even in the absence of PES payments. The project commissioned an independent analysis of the PES program's additionality, with support from the i2i program (Alix-Garcia and others, 2018). This analysis found that deforestation among PES participants was reduced by about half. The analysis also found that the PES program had a statistically significant impact on deforestation in the Yucatán Peninsula, which is the region with the highest rates of deforestation, and had a statistically significant impact on deforestation in areas at high risk of deforestation.

44. *Financial analysis*. From the landholders' perspective, the costs of participation include the opportunity costs of the most profitable alternative to forests, plus any out of pocket costs resulting from the need to comply with their contracts (such as the cost of undertaking fire patrols), minus the cost of undertaking the prescribed forest activities. The PES program receives applications covering substantially greater areas than its budget allows it to enroll. This suggests that participation is financially beneficial to participating landholders; if it were not, they could simply choose not to participate. In addition to financial benefits, participating communities also benefitted through improvements in social capital.

45. Complementarily, to account for the SFM activities supported under Component 2, a model has been developed to measure the impact of transitions from forest under basic management and low value-addition, into well-managed productive forest with greater value addition. The main source of information is data from a GEF project implemented by UNDP and CONAFOR from 2012 to 2016 (*Proyecto Biodiversidad en Bosques de Producción y Mercados Certificados*). The average annual forest income of the 32 CFEs that participated in the GEF project was US$1.3 million in 2016, a 20% increase compared to 2015. This represented a benefit of approximately US$7 million in that year to the landholders, which could be attributable to an increase in productivity the project. In the same period, the production costs remained almost the same, mostly due to higher wood prices.[40,41] Regarding social benefits, from 2012 to 2016 the forest cover increased by 0.5% in the 185 permanently monitored sites, and the number of registered species increased in 4.6%.

46. NPV estimates for SFM before and after the project implementation could not be obtained given the lack of baseline data. However, stable production costs and average levels of income similarly would be sufficient to justify the project's efficiency. Based on all SFM incentives under Component 2, the team has calculated the extrapolated collective increase in income resulting from the modernization in SFM, as well as the decrease in production costs. Annex 4 shows a preliminary framework for the analysis.

[38] World Bank. 2017. "Guidance note on shadow price of carbon in economic analysis." Washington: World Bank.
[39] For a review of the effectiveness of PES programs, see Börner and others (2017).
[40] UNEP and CONAFOR, 2017. Informe Final - Proyecto Biodiversidad en Bosques de Producción y Mercados Certificados
[41] However, this sample size initially established to estimate the Project impact was later considered insufficient and it was extended to 28/32 CFE, being the baseline number of CFE 37, and therefore there is not full information for all the CFEs for all years.

47. Implementation efficiency: Assessment of implementation efficiency can be characterized overall as substantial given that: (i) implementation of project activities was achieved with a lower-than-planned budget; (ii) overall RF performance was strong, with most PDO-level and Intermediate Results Indicator targets met or surpassed; (iii) there was little delay in activity implementation; and (iv) with the exception of initial staff turnover at the outset of implementation, there was little staff turnover during the project's implementation .

D. JUSTIFICATION OF OVERALL OUTCOME RATING

48. Overall Outcome is rated **Satisfactory**.[42] The project is significant for Mexico, with notable results, given:
- **High** continued relevance of the PDO, based on consistent and sustained alignment with guiding Bank strategy documents: Mexico FY2008-2013 and FY2014-2019 CPS, as well as Mexico's 2007-2012 and 2013-2018 NDPs.
- **Substantial** rating for Efficacy, based on the project's overall achievement of objectives.
- **Substantial** rating for Efficiency. Overall, the project supported a substantial increase in land-cover management activities, suggesting the project's programs effectively generated behavioral changes at community and household levels, as well as positive social capital improvements. The findings also suggest that programs, such as the PES, should continue to be supported.

E. OTHER OUTCOMES AND IMPACTS

Gender

49. Although the project was not centered on gender issues, and had no explicit gender objectives, there was deep awareness of the significant challenges women face in accessing forest resources and means of production in Mexico. Women's participation in community forest management programs has been low on average due in part to the legally established collective land tenure system (women hold a low percentage of property rights, 19.6%), as well as governance structures that tend to benefit men. Despite these challenges, the project contributed to GOM's increasing efforts to mainstream gender within forest policy.

50. In this respect, the project provided specific support to women by developing specific mechanisms to ensure women's participation in project activities and for women to directly benefit from them, including the establishment of specific purpose funding windows to mainstream women's access to CONAFOR support programs.[43] In addition, the project provided capacity building to civil servants on gender to help ensure that gender considerations were taken into consideration and incorporated more broadly into

[42] A split rating is not needed, since the project scope was not reduced during implementation.

[43] Some specific activities for gender inclusion included, *inter alia*: (i) online course "Learning to work with an inter-cultural approach" (*Aprendiendo a trabajar con enfoque intercultural*) which aims to raise awareness of the basic aspects around: interculturality, multiculturalism, gender approach and human rights, (ii) Training aimed at CONAFOR staff, technical advisors and key stakeholders for raising awareness and strengthening the participation of women and young people

CONAFOR's forest programs. CONAFOR also conducted gender dialogues, such as fora with women who played key roles in the forest sector, to more widely share these experiences.

51. At project completion, there were 265,632[44] direct project beneficiaries. However, women's participation accounted for only 21.3%. This number has remained fairly constant within all forestry programs, indicating that the direct community participation of women is relatively low. That said, project commitment to address gender gaps will have a positive impact on future forestry operations. Based on this experience, CONAFOR will target marginalized populations as direct beneficiaries of community forestry programs in the future, aiming to help remove barriers to managing natural resources and provide vulnerable groups direct financial access for forest management activities. Moreover, as part of the project, in 2017 CONAFOR launched an incentive program exclusively focused on women's productive projects.[45] This incentive is tailored to women's needs and limitations, such as land tenure. In addition, this support can be provided to CFEs, as well as associations operated by women.

Institutional Strengthening

52. **Capacity-building:** Changes that CONAFOR experienced as it adopted and mainstreamed WB Operational Policies and other requirements (e.g., safeguard requirements) not only improved its capacity, but also that of other institutions through sharing and collaborating. Interagency Collaboration Agreements (such as the collaboration agreement between CONAFOR and SAGARPA) and planning instruments had a positive effect on policy coherence, efficiency of improved tools, shared databases, service delivery and, thus, on overall effectiveness. Further, the project has helped institute more robust systems within CONAFOR to monitor and evaluate its programs, including a national MRV system and social and environmental safeguards monitoring systems.

53. In addition, the project supported the strengthening of CONAFOR's field offices through increases in staff and capacity building, improved infrastructure and equipment, as well as capacity building and certification of independent Service Providers. At project completion, 50 local offices (64% of CONAFOR's total number of local offices) had been equipped, and staff capacity in field offices increased. Independent service providers were certified and received targeted capacity building according to the standards established as elements of the activity indicator. These capacity building efforts supporting CONAFOR's offices as well as dedicated service providers allowed for greater capacity building at the local level, with stronger accompaniment and assistance provided to beneficiaries and in turn, stronger demand for CONAFOR's support programs. At project completion, there were 1,212 certified technical advisors, improving the quality of technical support provided to the project's targeted beneficiaries; with this support, the percentage of C&E with acceptable levels of social organization reached 71.31% and the percentage with acceptable levels of economic development had increased to 29.32%.

[44] AM 26 February 2018 -p. 4, para. 8.

[45] The incentive program is called: "*Proyectos Productivos Forestales para Mujeres*" (SAT 6) -Forestry Productive Project for Women. http://www.conafor.gob.mx/apoyos/index.php/inicio/app_apoyos#/detalle/2018/73

Poverty Reduction and Shared Prosperity

54. While the project did not have explicit poverty objectives, the target population of C&E included high numbers of poor, and special attention was paid to indigenous peoples. Of the total C&E who benefited under Components 2 and 3 between 2011-2016, 60% of those who received PES support, 48% who received forest management program support, and 60% of those who received support under the special programs, were in localities with a high or very high marginalization rate.[46] Moreover, 30% of the C&E beneficiaries of PES and 40% of the beneficiaries of special programs were in municipalities where over half of the population is considered indigenous.[47] These results indicate that the project benefited mainly marginalized and vulnerable populations. The project's community driven approach also helped ensure that these marginalized groups had a voice and decision-making role, and actively sought their broad participation for accessing CONAFOR's incentive programs.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

55. **Soundness of background analysis and project design**. The project design was based on sound background analysis that built upon and enhanced the successful experience of the previous Community Forestry and PES projects. It was designed to support a second generation of interventions to assist forest-dependent communities in building social organization, take full ownership of forest management, and optimize local and global benefits from forests. Building on this extensive experience, the project was designed to allow for continual design improvements, for example continued tailoring and strengthening of CONAFOR's incentive programs, and to ensure advancement of the REDD+ agenda and alignment of cross-sector policies. Project design provided a comprehensive package of assistance, combining policy, advisory, and investment instruments. Project design was also consistent with FIP investment criteria, including: (a) climate change mitigation potential; (b) demonstration potential at scale; and (c) implementation potential. As a result of the longstanding sectoral engagement and experience, project objectives were realistic, with the right level of ambitiousness, and the implementation of project activities were well planned, with the appropriate timing and sequencing of tasks. These design elements facilitated the project's future implementation: strengthening the implementing agency, improving the effectiveness of the enabling environment through stronger internal and cross-sectoral coordination and sharing, and furthering innovation and attention toward learning initiatives in which lessons could be drawn and knowledge shared. While on

[46] The marginalization index is an aggregate measure of social deprivation that has been calculated by the National Population Council of Mexico and widely used by the social policies. This index, is calculated using the national census (2010) and comprises 9 indicators that are grouped using principal components method: (i) Percentage of population 15 year old and over who is illiterate, (ii) Percentage of population of 15 year old and over who has not completed elementary education, (iii) Percentage of occupants in private houses without piped water, (iv) Percentage of occupants in private houses without sanitary nor sewer services, (v) Percentage of occupants in private houses without electric energy, (vi) Percentage of occupants in private houses with dirt floor, (vii) Percentage of occupants with some level of overcrowding, (viii) Percentage of employed population with income up to two minimum wages, and (ix) Percentage of population that lives in zones of at least 5,000 inhabitants. Locality is the smaller census division in Mexico. Data was calculated by the Bank by using geospatial data, and therefore only include those communities and ejidos that were linked to a spatial polygon.

[47] Numbers calculated by the Bank using the 2010 National Census and CONAFOR beneficiaries' databases.

the whole project design was well conceived, the results framework could have been better articulated. The methodology for measuring some indicators required clarification and the Bank and client worked to improve these methodologies during the early stages of implementation.

56. **Strong stakeholder engagement and consultation process.** A number of dissemination events were carried out during preparation at the national, regional, and local levels with a wide range of stakeholder groups (indigenous and other local communities, regional organizations and state governments, among others). This engagement and consultation process helped inform the development of the project's communication and information dissemination strategy utilized during implementation of the FCCP, as well as helped ensure synergies during the preparation of other related projects and programs (e.g., the FCPF Emissions Reduction Program).

57. **Adequacy of Government commitment.** Steady Government support throughout preparation showed unwavering interest in furthering the Forest and Climate Change agenda, despite impending electoral processes, and made it feasible to prepare and appraise the project within a ten-month timeframe. Preparation also benefited from an experienced and competent implementing agency, with the qualifications to positively contribute to project design, and with ample institutional and technical capacity to implement a project with a comprehensive design. In addition, throughout preparation, CONAFOR was quick to respond to information and documentation needs required by the tight preparation schedule, and to prepare and deliver in a timely fashion all the operational documents required, thus contributing to meeting preparation milestones.

58. **Strong preparation teams with ample technical and operational experience**, and lessons learned, from two decades of joint operations and policy dialogue on forests and, more recently, climate change in Mexico. This work was focused on continuing the strengthening of forest management activities already in place, and innovating by expanding support towards landscape and enterprise-oriented interventions, and deepening inter-sectoral coordination and complementary activities with relevant actors. It is important to note that following project approval, both the Bank and CONAFOR teams underwent changes in their formation and structure, resulting in a ten-month delay in project effectiveness. For the WB team, this resulted in a partial change, with the Task Team Leader as well a few other team members taking on new positions, while at CONAFOR there was a complete change in staffing with the advent of the new administration. Despite these changes resulting in additional time needed for project effectiveness and for new staff members (from both sides) to get up to speed, staff managed to ensure that implementation progressed and these transitions were smooth overall once project effectiveness was declared.

59. **Assessment of risks**. Overall project risk was assessed as substantial. The PAD identified two risks that were rated as 'substantial' and five as 'moderate.' Risks rated as substantial—in particular, safeguards and delivery monitoring—were related to the risk of project benefits not being broadly shared within communities (for example, with marginalized people, including women, who lacked land tenure), as well as to the risk of the sustainability of community investments. While these risks did not adversely impact implementation or progress toward key indicator targets, in hindsight, the project could have defined eligible beneficiaries more broadly and incorporated mechanisms to ensure that marginalized groups, such as women, small landholders outside C&E, and people within C&E without tenure, would have greater access to project benefits. Also, while sustainability of community investments was

flagged as a potential risk in the PAD, this was not a problem during implementation given the project's strong mitigation measures in place, including provision of adequate capacity building in addition to goods and works.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to control of the government and/or implementation entities

60. **Implementing agency experience, capacity and commitment were key factors facilitating implementation,**[48] including: (i) diligently detecting issues that might hamper implementation progress, developing and proposing viable solutions, and discussing and reaching agreements with counterparts; and (ii) updating guidelines and adapting procedures to respond to changing conditions, to ensure that implementation progressed with minimal disruption and that improved implementation performance and results could be achieved.[49] This commitment of the implementing agency lead to the development of a strong network of partnerships with donors (e.g., the Inter-American Development Bank (IDB) who was also supporting implementation of a FIP project and donors supporting the GOM in developing its REDD+ enabling framework), as well as other government agencies supporting rural development (SAGARPA, SEMARNAT) as set out in the Loan Agreement, and paved the way for an improved, collaborative, more productive and efficient interinstitutional working environment.

61. **Results Monitoring and Evaluation strategy was satisfactory in general, but early implementation was challenged by inadequate data collection methodologies to accurately assess outcomes.** Despite this initial challenge, M&E issues were quickly acknowledged during the early stages of implementation and indicator measurement methodologies and targets were revised to better measure project objectives. These swift actions demonstrated CONAFOR's commitment to implementation as well as to developing improved monitoring tools, such as the re-engineered Social Organization and Economic Development Indices, as well as the indicator measuring the reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas (PDO I-3).

62. **Strengthened capacity building and increased requirements -including certification- for technical assistance providers (TSPs) to be authorized to provide services to beneficiaries.** CONAFOR put into effect these increased requirements at the project's mid-term, demonstrating its attention to monitoring and evaluation, commitment to provide best quality support, and care for the sustainability of actions being developed and implemented. However, it is also important to mention that despite this extra focus on TSP qualifications,[50] the involvement of technical support agencies -such as ADLs and APDTs[51]- did not take place as expected. It took time and additional effort for agencies to support only 50% of the C&E involved in Component 3 activities. CONAFOR soon discontinued the ADL support scheme, and strengthened both the individual TSPs and the identification of other Innovative Landscape Management Agents, including APDTs (former ATL).

[48] Despite in-depth re-structuring of the CONAFOR team, as detailed in p. 7, para. 7 and p. 27, para. 75 above.
[49] As detailed in Revised Results Framework and PDO Indicators, p. 12-14, para. 15-22.
[50] The overall work on advisors ("asesores") was very successful. An entire roster of advisors was compiled and their certification process was extremely comprehensive, even recognizing differentiated capacities.
[51] APDTs, Territorial Development Public Agents (*Agentes Públicos de Desarrollo Territorial*) superseded ATLs.

63. **Managing spending levels in the face of economic difficulties, while equitably minimizing disruption to investments.** Since 2016, GOM has faced a period of fiscal adjustment. Although overall investment in sustainable forestry sector activities was not affected, the CONAFOR team was reduced and implementation of field activities became more difficult. The pace of implementation was also affected by these difficulties. In Mexico, the IBRD loan proceeds are not additional to an agency's own budget (that is, are counted toward the agency's authorized budget). As a result, the loan has an undisbursed balance of US$58 million. At the same time, the project was more than fully disbursed in local currency due to the significant exchange rate fluctuations from project preparation to implementation. Because planned resources were more than fully spent in local currency, the project was able to achieve RF compliance.

Factors subject to World Bank control

64. **WB procurement procedures presented challenges** to the implementing agency, in particular during the early years of implementation. CONAFOR considered some WB procurement procedures for contracting consulting firms to be overly cumbersome and the WB offered guidance in aligning procurement planning to better suit the agency's own operating procedures. However, CONAFOR considers the WB's Procurement Regulations for IPF Borrowers, July 2016, revised in November 2017, will be more practical and flexible for future projects once harmonized with Mexican legislation.

65. **The WB demonstrated flexibility and was responsive in ensuring smooth implementation,** by supporting operational adjustments to adapt to changing conditions, for example, the continuous improvement of the Project Operational Manual (POM).

66. **Ample and quick access to highly specialized support, both from staff and from outside specialists**, such as technical support received from FAO through M&E specialists who know the forestry sector in México.[52] CONAFOR appreciated and welcomed the support provided by the WB through highly specialized experts, and made it clear that this type of contribution was indeed key for their continual development.

67. **Focus of World Bank implementation support missions.** CONAFOR has also indicated that in future collaboration it would be helpful to the agency if implementation support has a stronger technical assistance focus, over a strongly administrative supervision.

Factors outside the control of government and/or implementation entities

68. **The unexpected fluctuation in the exchange rate, beginning in 2014, was the primary factor outside GOM control**. After the 2008 financial crisis, the GOM introduced countercyclical fiscal and monetary policies to quickly recover from the deep contraction in economic activity.[53] The Government focused intensely on meeting balanced budget targets to avoid disruptive and costly adjustments during annual budget implementation. To that end, GOM sought to diminish vulnerability of public finances to key

[52] During implementation, FAO's role was more limited, focused on the SOI and EDI indicators under component 2 given the complexity of this task, yet very helpful.
[53] FCCP PAD -p. 1, para. 1.

direct shocks and risks related to fluctuations in the exchange rate, along with potential or contingent sources of risk, such a natural disasters and climate change. This worked well from 2009 to 2011, as well as the outset of implementation in 2012. However, in mid-2014 the value of the Mexican peso started to drop, in line with the gradual decline in global oil prices, depreciating by 29.5% between July 2014 and August 2015, and continued to drop with continuous low oil prices, until reaching an average 42% in 2017. While the value began to climb in 2017, authorities were managing both high currency depreciation and low inflation, resulting in the project's undisbursed loan proceeds.

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

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

M&E Design

69. Under the M&E system's initial design, the PDO was monitored through three Outcome Indicators, while intermediate results were tracked through a total of 14 results indicators for the project's three components. While the PDO and overall theory of change were well conceived, parts of the PDO were challenging to measure, in particular "build social organization" and "generate additional income from forest products and services." This was in part due to the M&E system lacking clear measurement methodologies for many of the project's indicators, as well as the absence of baselines for some indicators at the project's outset. In addition, one of the PDO indicators aimed to measure multiple parts of the PDO (for example, "increase in number of communities building social organization and generating income from sustainable production of forest goods and services (number of communities, or percentage increase), including REDD+"), resulting in additional monitoring challenges during the early stages of implementation.

70. In addition, most indicator targets were designed to measure current (annual) rather than cumulative results. Focusing on current support is preferable for programs such as PES or certification, but cumulative numbers might be more meaningful for a program that provides support to improve forest management, with one-time investments rather than on-going support. Using only current values for the latter means the project is underestimating results. While the project exceeded targets on both accounts, it does mean that results are actually better than reported and also highlights the difficulty in developing appropriate indicators for such multi-dimensional programs.

M&E Implementation

71. **Sound systematic collection, recording and analysis of data characterized M&E implementation.** Despite design shortcomings, CONAFOR's attentiveness and commitment to the M&E system's implementation allowed for quick detection and remedy of shortcomings, including improvements in the measurement of indicator data. In addition, step-wise compliance with Intermediate Results Indicator 1.1 - Improved monitoring and evaluation system for CONAFOR-supported programs, including MRV, greatly contributed to improving the overall system of performance and results. The activity required data connectivity between CONAFOR's system and those of the General Directorate for Forest and Soils Management, SEMARNAT and SAGARPA, which enhanced and contributed to the continued development of the M&E system. Beyond the advances achieved in deploying the Comprehensive Support Management System (SIGA), CONAFOR still requires further improvements to monitoring systems -primarily SIGA, but also MRV and MAD-Mex, in order

to facilitate provision of accurate information regarding areas of intervention, characteristics of beneficiaries and economic results of investments in small and medium-sized forestry enterprises. With project support, a third version of SIGA (now called Comprehensive Support Information System) was developed, allowing for improved tracking of the support provided to each beneficiary and forest area. These improvements will allow CONAFOR to more efficiently allocate support to beneficiaries and priority forest areas in the future. Likewise, requests for support have been digitized since 2013, allowing for also their improved tracking.

72. Each year until 2014 and every two years afterwards, CONAFOR carried out a beneficiary assessment at the national level (*Encuesta Nacional de Personas Beneficiarias de CONAFOR*). A university was hired to carry out the task, and it developed a national survey collecting information from a statistically significant sample of approximately 478 beneficiaries (rural communities). This survey facilitated the calculations for the social and economic indices and helped obtain information on beneficiary perception regarding different aspects of CONAFOR's interventions, including contracted technical assistance. An evaluation of a sample of CFEs was also carried out, which facilitated calculations on the internal rate of return (IRR) and net present value (NPV) of these investments. These values were assessed via the GEF/UNDP Biodiversity in Production Forests and Certified Markets Project, which conducted an economic analysis for a sample of 32 CFEs. In addition, a national impact evaluation to measure the effect of PES on deforestation was carried out with WB and i2i support.

M&E Utilization

73. **M&E was in effect used as a key tool to inform decision-making, planning and budgeting for project management.** Overall, RF results show a solid accomplishment of outcomes and related targets, with good M&E performance undoubtedly being a large contributor. Examples of CONAFOR's focused tracking of the M&E system, that allowed CONAFOR and WB teams to take timely corrective action, include:
    (i) detection of slow procedures related to the delivery of forest permits in some states, which allowed CONAFOR to support SEMARNAT to strengthen compliance with managing C&E requests;
    (ii) continuous efforts to improve coordination and communications among key agencies—CONAFOR, SAGARPA, and SEMARNAT—until reaching full interconnectivity, setting up joint databases and streamlining the administrative framework for community-based forest management. Beyond achieving the target, interconnectivity fueled processes that went beyond these systems and allowed for the development of even greater complementarity of forest landscape management activities; among these, the development and use of the Geographical Information System (SIGECO) which contributed as a planning tool for landscape management and helped influence operating regulations in CONAFOR and SAGARPA. SIGECO is currently operated in the Campeche, Quintana Roo, Yucatán, and Chiapas states, where it helped define the areas where SAGARPA's Operating Rules apply; and
    (iii) continued improvement of the SIGA system during project implementation, under Component 1, which provides useful inputs to inform forest policy[54] and track overall beneficiary support.

[54] The Bank focused policy work on programs, so influence was applied at program level, and SIGA is instrumental for that.

Justification of Overall Rating of Quality of M&E

74. Quality of M&E is rated **Substantial.** While shortcomings in the M&E design were noted during the early stages of implementation, they were appropriately addressed through remedial actions, showing clear capacity to resolve and adapt, as reflected in the revisions to the RF and attention placed on indicator progress. The project effectively collected and managed data to track both implementation performance and progress towards the PDO, and informed decision making. Moreover, the project contracted additional analysis as needed to fully assess project outcomes.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

75. **Environmental and social safeguards.** The project was rated Category B and triggered Environmental Safeguards: OP/BP 4.01 Environmental Assessment, OP/BP 4.04 Natural Habitats, OP/BP 4.36 Forests, OP 4.09 Pest Management; and Social Safeguards: OP/BP 4.12 Involuntary Resettlement, OP 4.10 Indigenous Peoples, OP 4.11 Physical Cultural Resources.

76. An Environmental Assessment (EA), Environmental Management Framework (EMF), Social Assessment (SA), Indigenous Peoples Planning Framework (IPPF) and Process Framework (PF), building on approximately two decades of CONAFOR's experience in the implementation of good environmental and social practices in WB and GEF operations, were submitted to the WB and disclosed. Based on the EA, the EMF focused on mainstreaming good environmental practices in Components 2 and 3, and enabling the institutional arrangements within CONAFOR for screening and scoping of community investments. The SA reviewed the socio-cultural context of project-supported areas and key findings were mainstreamed in project activities, including the role of women in forest management, identification of indigenous peoples, broad community participation, among others, promoting a socially inclusive approach.

77. Bank social and environmental safeguards policies applied to all project activities, with specific focus on activities in forestry management, production and processing, as they represented higher safeguard risks. None of the project restructurings triggered additional safeguards, and no waiver of WB policies was required. The project followed through with agreed mitigation actions, the EMF was revised several times, and safeguard risks were rated moderate at the beginning and low in the last half of project implementation.

78. The WB supervision team repeatedly showed satisfaction[55] and recognized CONAFOR: initially for its continued progress in complying with social safeguards,[56] its efforts in addressing environmental and social aspects in an integrated manner and going beyond compliance, thus guaranteeing long-term sustainability of safeguards principles;[57] and later[58] for its work in reporting on and compliance with safeguards throughout project implementation. In this respect, it is important to highlight that CONAFOR mainstreamed the WB's

[55] Aide Memoire of Implementation Support Mission, 12-16 November 2012 -p. 3. Note: CONAFOR acknowledges compliments received but, by the same token, highlights that Mexico has an important capacity, as well as -in the case of environment- robust legislation. This makes hand holding redundant, and unnecessary the wear and tear of being asked to needlessly work on requests already covered by the legislation framework already in place. On the flipside it acknowledges access, through the Bank, to value added brought by top specialists, and hopes to continue nurturing this great type of interaction.

[56] Including its efforts to define priorities for Indigenous Peoples' General Plan, and Specific Plans for Special Programs, as well as efforts to socializing safeguards within the agency.

[57] Aide Memoire of Implementation Support Mission, 2-5 December 2013 -p. 11.

[58] Aide Memoire of Implementation Support Missions, 14-16 November 2016 - p. 12.

environmental and social safeguards in its own operating rules, which represents best practice in safeguards management and helps ensure the sustainability of project investments. Based on these achievements, safeguards compliance is rated **satisfactory**.

Fiduciary compliance.

79. **Financial Management (FM) and audit.** Project Aide Memoires indicate a consistent and satisfactory FM performance, and overall fiduciary risks were rated low throughout implementation; audit performance was uniformly strong. Annual, independent audits of project accounts were delivered on time and produced clean, unqualified opinions for all years of implementation. The final Implementation Status and Results Report (ISR) rated FM performance as Satisfactory.

80. FM was conducted in accordance with arrangements stipulated in the legal agreement. The FM risk rating remained Substantial throughout project implementation due to project size, scope and number of financing sources. The WB's FM Specialist was able to dedicate greater time and attention to the project's FM oversight, as implementation progressed, which translated into visible results.

81. While FM ratings were satisfactory throughout implementation, during the second semester of 2016 and first semester of 2017 the project was rated "moderately satisfactory" due to low disbursement levels. At that time, the project identified that it might not fully execute available funds given that activities had been paid with counterpart funds. At this same time, the Government, as part of the fiscal adjustment process, also placed constraints on CONAFOR's, as well as other public agencies', authorized budgets. FM ratings were again raised to "satisfactory" during the second semester of 2017 and first semester of 2018, which resulted in the final satisfactory FM performance rating for the project.

82. **Procurement**: The management of procurement processes at project closing is rated Moderately Satisfactory, due principally to lack of improvement on managing the bidding processes (planning, preparing and evaluating). The last Post Procurement Review, made in August 2017, found some Procurement issues, which determined the procurement performance risk to be substantial. This and previous Post Reviews included recommendations to support the improvement for managing procurement processes, including: (i) better planning and scheduling of procurement processes, ensuring better effectiveness while contracting, (ii) in the case of Request for Quotations as a selected method, it was recommended to broaden the catalogue of suppliers, promoting greater competitiveness within the market and avoiding the risk of non-compliance and having several contracts at a time with a single service provider, (iii) before proceeding to process the payment of the goods or services, it was recommended to issue a technical evaluation report, dated and numbered, with the names and signatures of those responsible, as well as the issuance of an opinion or technical report about the satisfaction of the delivered products. No fraud and corruption issues related to Procurement activities were found during project implementation.

C. BANK PERFORMANCE

Quality at Entry

83. **Project design was thorough and sound overall.** The project was closely aligned with Government and WB strategic priorities. Project design also built upon lessons learned from almost two decades of WB experience

in Mexico's forest sector, as well as extensive preparation that covered technical, institutional, fiduciary, and economic issues. A strong PDO statement and well-thought-out theory of change, resulted in well-conceived component design and institutional arrangements that benefited from both IBRD and FIP financing. A good risk assessment[59] also helped ensure adequate implementation arrangements. All activities were implementable and remained unchanged until project completion. As mentioned, preparation challenges did include some weaknesses in providing sufficient clarity in M&E design and attention to impact evaluation.

Quality of Supervision

84. A review of project records and testimonials provided by project participants indicates that the WB provided effective support to implementation, not just of FCCP but also the FIP, which it also coordinated with the IDB. With the exception of early difficulties in getting up to speed and responding in a timely fashion to CONAFOR requests due to changes in team composition in the early stages of implementation, implementation did progress in a fluid manner, allowing the team to support counterparts in continued progress improvement, problem solving and institutional strengthening. The WB continuously tracked progress and assisted counterparts in improving implementation and tracking progress toward achievement of the PDO, including providing outside support, as requested. For example, the WB team mobilized M&E specialists from FAO to help FCCP improve methodologies for measuring PDO I-1 and 2. In addition, WB supervision performance is assessed on: efficient use of resources to coordinate and deliver comprehensive support through formal implementation support missions, frequent informal visits and remote assistance throughout project implementation; candid and well documented reporting via Aide Memoires, ISRs, financial management, safeguards, and other reports; solid safeguards support; and strong fiduciary support, through consistent and timely support and follow-up, within a complex inter-institutional framework.

Justification of Overall Rating of Bank Performance

85. The WB's interactions both during preparation and implementation showed dedicated support to the counterpart. At entry, there was dedicated support to help GOM prepare a comprehensive operation that would be sustainable beyond project completion. During implementation, the WB was an effective and responsive partner to the Government, supporting project adjustments as needed and helping achieve significant development outcomes. WB shortcomings were minor. Overall WB performance is rated **Satisfactory.**

D. RISK TO DEVELOPMENT OUTCOME

86. **Sustaining and scaling-up development outcomes**. Several operations will support the sustainability as well as scaling-up of the project's development outcomes. A recently effective IBRD/ISFL *Strengthening Entrepreneurship in Productive Forest Landscapes Project* (P164661) builds on the successes of the FCCP and ensures continuity in the areas of community forest management and PES. It also supports innovative new approaches, including (i) increasing the economic and environmental benefits of project interventions by promoting the integration of productive forest management activities along with forest conservation and restoration activities in the same territory; (ii) supporting a wide variety of potential beneficiaries, including

[59] With steady ratings throughout, mostly Moderate and Low

small landholders and forest enterprises; and (iii) focusing on productivity to enable forest-dependent people and enterprises to more fully reap the benefits of forest landscapes. In addition, the Bank and Government are initiating the negotiations process for a FCPF Emissions Reduction Program, a Carbon Finance Transaction involving the delivery of and payment for Emission Reductions (ERs) between CONAFOR, the Program Entity, and the WB as Trustee of the FCPF Carbon Fund. Emission reductions will be generated via the REDD+ intervention model piloted in Early Action Areas under the FCCP.

87. Risk to Development Outcome: **Low**, based on the above-mentioned factors.

V. LESSONS AND RECOMMENDATIONS

88. **Fostering transformation and social cohesion requires significant technical support.** C&E required close technical assistance to ensure they received the full benefits of project support, to improve their production processes, enhance restoration efforts, and access markets, among others. C&E benefited greatly from the range of technical expertise provided under the project, providing the support needed for conservation as well as productive investments.

89. **Importance of complementary financing sources.** The Mexico Program on Forests and Climate Change, financed largely with FCCP resources, represents the largest and most ambitious WB engagement on forests today. By accessing complementary financing sources (IBRD, TFs, climate finance), the project was able to (i) pilot an innovative approach at the territorial level that fosters multi-sectoral coordination (FIP and FCPF support); (ii) provide a strategic platform for engagements on sustainable and low-carbon rural development; and (iii) enhance impact on the ground by combining various instruments (analytical, investment, performance based).

90. **Importance of fostering inter-institutional linkages.** Given the project's multi-sectoral nature, in which the underlying factors of deforestation and degradation often include the profitability of other land uses and land use change related to agriculture and livestock, the project sought collaboration with key public agencies in the rural sector (CONAFOR, SAGARPA, National Commission for the Knowledge and Use of Biodiversity). For example, CONAFOR signed an agreement with SAGARPA in 2016 to improve inter-institutional coordination in forest landscapes. The agreement outlines joint actions related to REDD+, restoration, integrated watershed management, development of PES schemes, and improved monitoring systems.

91. **Client commitment is key to success.** The project confirmed that implementing agency, as well as broader Government commitment is critical to the overall success of project activities, particularly when there are innovative elements (e.g., pilot investments in the Early Action Areas, combining different supports, such as PES and soil restoration, to promote a more robust landscape management approach), which depend on technical and political level support to succeed.

92. **Having in place robust M&E mechanisms from the outset helps ensure smooth and effective implementation.** Ensuring a good implementation pace from the outset requires having a good

information management system already in place, such as the SIGA (a comprehensive, automated and georeferenced system that tracks community requests, approval processes, physical and financial progress, and efficiency). The project also benefited from FAO specialists, who were brought in early and helped strengthen the quality of evaluation work.

93. **Importance of close fiduciary follow-up.** The procurement challenges faced by the project highlight the importance of close Bank-client follow-up to improve procurement processes during implementation. Clients need to be informed of procurement supervision findings in a timely manner and Bank team members should closely follow-up on the status of these recommendations.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Support rural communites in Mexico to sustainably manage their forests

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase of forest area managed by Communities and Ejidos under sustainable management practices	Percentage	0.00 20-Mar-2012	10.00 28-Feb-2017	95.00 28-Feb-2018	91.90 28-Feb-2018

Comments (achievements against targets): Target substantially achieved (97% achievement). While 3,935,984 ha (a 91.9% increase over the baseline of 2,050,626 ha) were managed by communities and ejidos under sustainable management practices at completion, this value is not cumulative, but rather reflects yearly results. Achievements in 2016 and 2015 were 4,448,308 ha and 4,001,687 ha, respectively, managed by communities and ejidos under sustainable management practices (e.g., PES, community forestry, and productive chains).

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas	Percentage	0.00 20-Mar-2012	10.00 28-Feb-2017	10.00 28-Feb-2018	5.00 28-Feb-2018

Comments (achievements against targets): Target partially achieved (50% achievement). Average reduction to 10,907 gigagrams of CO2 equivalent per year during project implementation, resulting in a 5% reduction as compared to the updated Forest Reference Emission Level (FREL) of 11,469 gigagrams of CO2 equivalent per year. While the target was only partially achieved, the project helped achieve significant results in strengthening CONAFOR's MRV system, improving the accuracy of GHG emission reduction calculation methods, including the estimation of forest degradation emission factors, as well as carbon and biomass.

Objective/Outcome: Build social organization and generate additional income from forest products and services

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in Communities and Ejidos that apply sustainable management and conservation schemes	Percentage	0.00 20-Mar-2012	20.00 28-Feb-2018	35.00 28-Feb-2018	36.00 28-Feb-2018

Comments (achievements against targets): Target surpassed (102% achievement). 2,622 communities and ejidos applied for sustainable management and conservation schemes (e.g., land-use zoning plan development, PES, forest value chain development, community forestry, reforestation) in 2017, representing a 36% increase over the baseline of 1,923 communities and ejidos). This value is not cumulative, but rather reflects yearly results. For example, 3,241 communities and ejidos applied for such schemes in 2016.

A.2 Intermediate Results Indicators

Component: Policy Design and Institutional Strengthening

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improved monitoring and	Yes/No	N	Y	Y	Y

evaluation system for CONAFOR-supported programs (including MRV) is operational		20-Mar-2012	28-Feb-2017	28-Feb-2018	28-Feb-2018

Comments (achievements against targets): Target achieved (99% achievement). CONAFOR achieved 99% of planned improvements in its principal monitoring systems (including MRV, SIGA, and Program Monitoring and Evaluation System). The remaining 1% is related to work being finalized for the National MRV System (specifically work currently being conducted to implement the remote sensor operating system), which is planned to go into operation in September 2018.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of CONAFOR field offices rehabilitated, equipped, staffed and trained	Number	0.00 20-Mar-2012	32.00 28-Feb-2017	50.00 28-Feb-2018	50.00 28-Feb-2018

Comments (achievements against targets): Target achieved (100% achievement). This support has provided goods and capacity building to 50 CONAFOR offices, strengthening their administration and advisory capacity (including outreach to potential beneficiaries of CONAFOR's incentive programs), supporting the overall management of the project, and fostering cross-sectoral coordination between CONAFOR and other agencies (e.g., SAGARPA and SEMARNAT).

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of community forest management permits and special permits approved within the legal span	Percentage	75.00 20-Mar-2012	100.00 28-Feb-2017	85.00 28-Feb-2018	68.23 28-Feb-2018

Comments (achievements against targets): Target substantially achieved (80% achievement). CONAFOR has carried out a number of actions to improve indicator performance, includng promote capacity building among technical specialists so that forestry management programs presented as part of permit requests can be approved more readily. While improvements have been made, permit authorization is not under CONAFOR's mandate (is under another agency's responsibility) and as such, the agency has limited ability to ensure timely approval.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
An integrated CONAFOR-SAGARPA-DGF database is operational	Yes/No	N 20-Mar-2012	Y 28-Feb-2017	Y 28-Feb-2018	Y 28-Feb-2018

Comments (achievements against targets): Target achieved (100% achievement). This integrated database has translated into a better complementary of inter-institutional support at the forest landscape level, with the database being used for decision making and a landscape planning tool to define investment eligibility areas in Campeche, Quintano Roo, Yucatan, and Chiapas.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of certified private technical service providers	Number	0.00 20-Mar-2012	800.00 28-Feb-2017	1300.00 28-Feb-2018	1212.00 28-Feb-2018
Increase in certified private technical providers offering training in at least three different competencies	Percentage	0.00 20-Mar-2012	0.00	46.00 28-Feb-2018	43.50 28-Feb-2018

Comments (achievements against targets): Target substantially achieved (93% achievement). While the indicator is only substantially achieved, it is

important to note that the requirements for private technical service provider certification became significantly more stringent over the past few years. As such, there were more certified providers during the early years of implementation (e.g., 1,974 certified providers in 2014). By maintaining a large number of certified providers under the new requirements, the indicator's achievements are significant.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of knowledge assets on REDD+ created and shared	Number	0.00 20-Mar-2012	10.00 28-Feb-2017	16.00 28-Feb-2018	19.00 28-Feb-2018

Comments (achievements against targets): Target surpassed (118%). With these knowledge assets (e.g., REDD+ publications and studies), CONAFOR has been able to respond to the demand and needs of a number of different stakeholders and foster greater information dissemination with local communities, as well as exchange lessons and experiences on REDD+.

Component: Consolidation of Priority Community-Based Programs at National Level

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in Social Organization Index in communities that participate in demand-driven programs on community forestry and payment for environmental services	Percentage	58.91 20-Mar-2012	20.00 28-Feb-2017	65.00 28-Feb-2018	71.31 28-Feb-2018

Comments (achievements against targets): Target surpassed (110% achievement). Actual value reflects CONAFOR's 2016 National Beneficiary Survey, which included new questions and a new methodology. While the original indicator target measured the number of SOI components achieved (with an

original target of 20 components achieved), the formally revised target measured a weighted percentage of C&E that matched criteria against five levels of achievement (from very low to very high), with high and very high levels considered acceptable levels of achievement. Annex 7 includes additional information on methodology, source data and details.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in Economic Development Index in communities that partiicpate in demand-driven programs on community forestry and payment for environmental services	Percentage	18.85 20-Mar-2012	20.00 28-Feb-2017	35.00 28-Feb-2018	29.32 28-Feb-2018

Comments (achievements against targets): Target substantially achieved (84% achievement). Actual value reflects CONAFOR's 2016 National Beneficiary Survey, which included new questions and a new methodology. Annex 7 includes additional information on methodology, source data and details.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Reduction of loss of forest cover (net deforestation rate) nationwide, compared to initial value	Percentage	0.00 20-Mar-2012	8.00 28-Feb-2017	21.50 28-Feb-2018	21.50 28-Feb-2018

Comments (achievements against targets): Target achieved (100% achievement). Percentage achieved based on baseline annual loss of 116,883.74 ha/year and annual loss at completion of 91,711.68 ha/year. This reduction in forest cover loss at completion reflects FAO estimates.

Component: Innovation for REDD+ in Early Action Areas

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of operational agreements among CONAFOR, SAGARPA, and States in support of REDD+	Number	1.00 20-Mar-2012	4.00 28-Feb-2017	6.00 28-Feb-2018	6.00 28-Feb-2018

Comments (achievements against targets): Target achieved (100% achievement). Target includes agreements with SAGARPA and the states of Chiapas, Jalisco, Campeche, Quintana Roo, and Yucatan. Signed agreements between the states and CONAFOR outline state responsibilties (including implementation and monitoring requirements) under a future REDD+ FCPF Emissions Reduction Program, while agreement between CONAFOR and SAGARPA supports joint commitments to reduce deforestation in forest areas.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of new community-based, economically viable, REDD+ focused, initiatives with demonstrated potential for replication at scale	Number	0.00 20-Mar-2012	0.00 28-Feb-2017	11.00 28-Feb-2018	11.00 28-Feb-2018

Comments (achievements against targets): Target achieved (100% achievement). At closing, 11 investment plans have been developed for a future FCPF Emissions Reduction Program. These plans have been developed via a widely participatory and consultative process, and validated in social participation platforms (e.g., State REDD+ Committees). Each plan comprises a number of specific land management activities that have been identified according to the particular conditions of the region/ participating states' drivers of deforestation. These activities include: (i) sustainable cattle ranching; (ii) improved cropping systems; (iii) sustainable forestry and wildlife management; (iv) renovation and rehabilitation of coffee plantations; (v) apiculture development; (vi) strengthening of regulatory instruments; (vii) payment for environmental services; (viii) strengthening local governance; (ix) productive reconversion;

and (x) productive projects to increase revenues. It is important to note that the original target was 0, given that a target had not yet been defined for the indicator at project appraisal.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of Ejidos and Communities receiving support under special programs in REDD+ Earlly Action Areas	Percentage	0.00 20-Mar-2012	100.00 28-Feb-2017	30.00 28-Feb-2018	29.00 28-Feb-2018

Comments (achievements against targets): Target substantially achieved (97% achievement). Related to this target, the percentage of communities and ejidos that are currently receiving support under REDD+ special programs, who are also receiving support from technical advisors, is 51% (compared to an original goal of 50%).

B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Support rural communities (C&E) in Mexico to sustainably manage their forests	
Outcome Indicators	1. PDO I-1: Increase of forest area managed by C&E under sustainable management practices. (Target: 95% increase) – **Substantially achieved** (91.9%, representing 87% achievement) 2. PDO I-2 Reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas. (Target: 10%) – **Partially achieved** (5%, representing 50% achievement)
Intermediate Results Indicators	**Component 1: Policy Design and Institutional Strengthening** (Main aim: CONAFOR has developed the capacity and the adequate systems to manage its growing portfolio, and has put in place effective inter-sectoral coordination mechanisms.) 1. IR I-1.1: Improved monitoring and evaluation system for CONAFOR-supported programs (including MRV) is operational. (Target: 100%) **– Substantially achieved** (99% achievement) 2. IR I-1.2: Number of CONAFOR field offices rehabilitated, equipped, staffed and trained. (Target: 50 units) **– Achieved** (50, representing 100% achievement) 3. IR I-1.3: Percentage of community forest management permits and special permits approved within the legal span. (Target: 85%) **– Partially achieved** (68%, representing 80% achievement) 4. IR I-1.4: An integrated CONAFOR-SAGARPA-DGF database is operational. (Target: 5 units) **– Achieved** (5, representing 100% achievement**)** 5. IR I-1.5: Number of certified private technical service providers. (Target: 1,300) **– Substantially achieved** (1,212, representing 93% achievement) 6. IR I-1.5bis: Increase in certified private technical advisors offering training in three or more technical capacities. (Target: 46%) **– Substantially achieved** (43.5%, representing 94.6% achievement) 7. IR I-1.6: Number of knowledge assets on REDD+ created and shared. (Target: 16 units) **– Exceeded** (19, representing 118.8% achievement) 8. IR I-1.7 Reduction of loss of forest cover (net deforestation rate) nationwide. (Target: 21.5%.) – **Achieved** (21.5%, representing 100% achievement)

	Component 3: Innovation for REDD+ in Early Action Areas (Main aim: innovation efforts in two REDD + early action areas allow for the reduction of net deforestation and forest degradation, and the identification of landscape management models that produce low emissions and can be replicated elsewhere.) 1. IR I-3.1 Number of operational agreements among CONAFOR, SAGARPA, and States in support of REDD+ EAA. (Target: 6) - A**chieved** (6, representing 100% achievement) 2. IR I-3.2 Number of new community-based, economically viable, REDD+ focused, initiatives with demonstrated potential for replication at scale. (Target: 11) – **Achieved** (11, 100% achievement) 3. IR I-3.3 Percentage of *Ejidos* and Communities receiving support under Special Programs in REDD+ Early Action Areas. (Target 30%) – **Substantially achieved** (29%, representing 97% achievement). 4. IR I-3.4 Percentage of participating communities receiving support from innovative landscape management agents (ATL/ADL) in REDD+ Early Action Areas (REDD+ EAA). (Target: 50%) – **Exceeded** (project achieved 51%).
Objective/Outcome 2: Support rural communities (C&E) in Mexico to build social organization.	
Outcome Indicators	PDO I-3: Increase in Communities and *Ejidos* that apply sustainable management and conservation schemes. (Target: 2,600 num.; 35%) – **Exceeded** (36.3%, representing 102% achievement)
Intermediate Results Indicators	**Component 2: Consolidation of Priority Community-Based Programs at National Level** (Main aim: the top five demand-based CONAFOR programs on community forestry and payments for environmental services, help to improve social and economic situation of participating C&R and maintain forest cover/reduce forest vulnerability.) 1. IR I-2.1 Increase in SOI in communities that participate in demand-driven programs on community forestry and payment for environmental services. (Target: 65%) – **Exceeded** (71.3%, representing 110% achievement)

	2. IR I-2.3 Number of C&E direct beneficiaries (accumulated total, without duplication, broken down by gender and indigenous origin). (No target) **265,632 direct project beneficiaries, of which 56,424 are women and 93,577 are indigenous.**
Objective/Outcome 3: Support rural communities (C&E) in Mexico to generate additional income from forest products and services	
Outcome Indicators	PDO I-3: Increase in Communities and *Ejidos* that apply sustainable management and conservation schemes. (Target: 2,600 num.; 35%) – **Exceeded** (36.3%, representing 102% achievement)
Intermediate Results Indicators	**Component 2: Consolidation of Priority Community-Based Programs at National Level** (Main aim: the top five demand-based CONAFOR programs on community forestry and payments for environmental services, help to improve social and economic situation of participating C&R and maintain forest cover/reduce forest vulnerability.) 1. IR I-3.1 Increase in EDI in communities that participate in demand-driven programs on community forestry and payment for environmental services. (Target 35%) **Substantially achieved** (29.32%, representing 84% achievement)

C. ADDITIONAL DETAILS ON THE THEORY of CHANGE (RESULTS CHAIN)

The project aimed to further develop and strengthen three key dimensions of rural communities' livelihoods: social organization, sustainable forest management, and income generation from forest products and services, including the Reduction of Emissions from Deforestation and Degradation (REDD+).

Theory of Change: Mexico Forests and Climate Change Project (P123760)

Critical Assumptions:	- By building common interest and social organization among C&E, C&E will collectively plan and carry out sustainable forest management (SFM) and conservation schemes.

	- By delivering timely technical support to C&E in implementing SFM activities, and in improving managerial and entrepreneurial (business) skills, sustainable management practices, restoration and expansion of forest resources, stronger socioeconomic development among marginalized rural communities, as well as strengthening communities' resilience to climate change, REDD+ will be ensured. CONAFOR will gradually increase support to SFM and insure the Payment for Environmental Services (PES) for the period established in the C&E agreements extends beyond the Project closure.
Activities / Interventions:	- Funding C&E capacity building, technical support, planning and implementation of investments, including PES, and innovative approaches, which promote sustainable increased production and productivity, innovation and income diversification. - Provision of complementary public goods and services (e.g., certification, infrastructure); furthering a more attractive entrepreneurial environment through improved policies and better program rules; and supporting legal and environmental regulatory compliance. - Building institutional capacities to implement ENAREDD+, including information systems, MRV, safeguards, collaboration with other institutions, among others.
Outputs / Intermediate Results:	Build social organization: - Increase in Social Organization Index (SOI) in communities that participate in demand-driven programs on community forestry and payment for environmental services. - Increase in Economic Development Index (EDI)[60] in communities that participate in demand-driven programs on community forestry and payment for environmental services. - Increase in number of certified private technical service providers. Sustainably manage forests: - Increase in percentage of community forest management permits and special permits approved within the legal span. - Reduction of loss of forest cover (net deforestation rate) nationwide, compared to initial value. Generate additional income from forest products and services: - Increase in number of new community-based, economically viable, REDD+ focused, initiatives with demonstrated potential for replication at scale.

[60] The Economic Development Index (EDI) measures elements other than social organization but, in this context, it is used to accompany the SOI as a proxy of well-being due to increased social organization.

	- Increase in percentage of ejidos and communities receiving support under special programs in REDD+ Early Action Areas (REDD+ EAA). <u>Improved support:</u> -- Increase in number of knowledge assets on REDD+ created and shared. Improved monitoring and evaluation system for CONAFOR-supported programs (including MRV) is operational. - Increase in number of CONAFOR field offices rehabilitated, equipped, staffed and trained. - An integrated CONAFOR-SAGARPA-DGF database is operational. -Increase in number of operational agreements among CONAFOR, SAGARPA, and States in support of REDD+.
PDO Outcomes:	- Build social organization: Increase in number of communities building social organization and generating income from sustainable production of forest goods and services including REDD+. - Sustainably manage forests: Increase in forest area under improved management and reduced carbon emissions practices. - Generate additional income from forest products and services including REDD+: Increase in Economic Development Index in communities that participate in demand-driven programs on community forestry and payment for environmental services (PES).
LT Impacts:	- GOM continues supporting SFM activities and further development of forest resources, leading to improved resilience and improved socio-economic status of communal forest dwellers

D. CHANGES INTRODUCED TO RESULTS FRAMEWORK

Indicator	Indicator Name Status	Explanation of Changes
PDO Indicator 1	Original: Increase of forest area under improved management and reduced carbon emissions practices. Revised: Increase of forest area managed by Communities and *Ejidos* under sustainable management practices.	- Methodology for measuring PDO Indicator 1 redefined, by avoiding double counting and specifying which project-supported forest management programs/practices were being evaluated, and by avoiding double counting (i.e. the same forest area being counted twice if more than one support is given for that area). - The redefined indicator measured only forest area managed by C&E, under the following improved management practices: (i) Payment for Environmental Services, (ii) Certification in good forest management practices, (iii) Payment for Environmental Services within REDD+ special programs iv) support to improved forest management (timber, non-timber products and wild life), and (v) Community investments in REDD+ early action areas. - By implementing these clarifications, the revised indicator's target value was increased from a 10% to a 95%.
PDO Indicator 2	Original: Increase in number of communities building social organization and generating income from sustainable production of forest goods and services including REDD+. Revised: Increase in Communities and *Ejidos* that apply sustainable management and conservation schemes.	- Indicator clarified by avoiding double counting and specifying which sustainable management programs/practices communities were benefiting from (they are the same programs as those measured in PDO 1), also to avoid any double counting. - To measure CONAFOR's most ambitious achievements under its National Forestry Program, the indicator was redefined to measure "the increase in C&E that apply sustainable management and conservation schemes." - By implementing these clarifications, the revised indicator's target value was increased from a 20% to a 35%.
PDO Indicator 3	Original: Reduction of net deforestation and forest degradation in selected landscapes within REDD+ Early Action Areas compared to baseline (number of hectares, or equivalent net CO2 emissions). Revised: Reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas.	- Methodology for measuring PDO Indicator 3 was redefined to utilize data from official country databases (developed under a Strengthening REDD+ Preparation Project), that provided data on soil use and vegetation cover from INEGI and the National Forestry Inventory. - To better reflect data from national information sources, the Indicator Name was recast to read "reduction in GHG emissions from deforestation and forest degradation in REDD+ Early Action Areas" as the target.

Intermediate Indicator 1	Unchanged: Improved monitoring and evaluation system for CONAFOR-supported programs (including MRV) is operational.	- Index developed to measure improvements in CONAFOR's M&E systems. End-of-project indicator target set at 100%.
Intermediate Indicator 2	Unchanged: Number of CONAFOR field offices rehabilitated, equipped, staffed and trained.	- End-of-project indicator target revised upwards to 50 from 32.
Intermediate Indicator 3	Unchanged: Percentage of community forest management permits and special permits approved within the legal span.	- Measurement methodology clarified to utilize historic data from the National Permit System, the Environment Ministry, and the National Forestry Management System. - End-of-project indicator target revised downwards to 85% from 100%, with a lowered adjusted baseline of 75% (down from 91%).
Intermediate Indicator 4	Unchanged: An integrated CONAFOR-SAGARPA-DGF database is operational.	- Target is for agencies to harmonize their databases in five connection points.
Intermediate Indicator 5	Unchanged: Number of certified private technical service providers.	- Measurement methodology refined to better reflect the number of technicians certified to provide advisory support to beneficiaries. - End-of-project target set at 1,300 TSPs, up from 800 TSPs. In addition, a new sub-indicator was introduced (shown below) to reflect the span of multi-sectoral support offered by these service providers.
Sub Indicator 5 (New)	New: Increase in certified private technical providers offering training in at least three different competencies.	- New sub-indicator measures percentage of certified private technical service providers who are providing advisory support in three or more competencies. - End-of-project target set at 46%, up from a baseline of 6%.
Intermediate Indicator 6	Unchanged: Number of knowledge assets on REDD+ created and shared.	- End-of-project target for this intermediate indicator revised upwards to 16 from 10, to better reflect anticipated end-of-project results.
Intermediate Indicator 7	Unchanged: Increase in Social Organization Index in communities that participate in demand-driven programs on community forestry and payment for environmental services.	- In-depth review conducted to refine measurement of the index with support from FAO. The review took into consideration the expected effects of the CONAFOR Program on the different variables used, the weight of the variable in the final score, new criteria for sample selection, among others. - The refined measurement approach goes beyond informing the index as a percentage, as it measures communities' level of social organization (very low, low, medium, etc.) and rather calculates the percentage of communities that achieve acceptable levels.

		- Based on this review, the baseline was set at 58.91%, up from 0%, and the end-of-project target was set at 65%, up from 20%.
Intermediate Indicator 8	Unchanged: Increase in Economic Development Index in communities that participate in demand-driven programs on community forestry and payment for environmental services.	- Similar in-depth review also conducted to refine measurement of the index has also been conducted with support from FAO. - This new measurement is more than an index, as it measures communities' level of economic development (very low, low, medium, etc.) and calculates the percentage of communities that achieve acceptable levels. - Based on this in-depth review, the baseline was set at 18.85%, up from 0%, and the end-of-project target was set 35%, up from 20%.
Intermediate Indicator 9	Unchanged: Reduction of loss of forest cover (net deforestation rate) nationwide, compared to initial value.	- For this intermediate indicator, the end-of-project target was modified from 8% to 21.5% to better reflect anticipated end-of-project results. - Reductions in forest cover loss reflected FAO estimates at the time of revision of the indicator, while the end-of-project target will be confirmed against national level datasets (from INEGI and the National Forest Inventory).
Intermediate Indicator 10	Unchanged: Percentage of participating communities receiving support from innovative landscape management agents (ATL/ADL) in REDD+ Early Action Areas.	- Measurement methodology was refined to specify the type of support provided to communities, namely: (i) creating coordination mechanisms to develop and effectively implement participatory land use plans at the landscape level; (ii) enabling inter-sectoral investments in productive landscapes that are economically sustainable; (iii) coordinating M&E initiatives of REDD+ activities; and (iv) identifying and disseminating lessons learned in REDD+ early action areas to support their replication and scale-up. - With this refinement to the measurement methodology, the end-of-project target was modified from 100% to 50% to better reflect anticipated end-of-project results.
Intermediate Indicator 11	Unchanged: Number of operational agreements among CONAFOR, SAGARPA, and States in support of REDD+.	- The end-of-project target was modified from 4 to 6 to better reflect anticipated end-of-project results. - Specifically, the revised target value took into account the coordination efforts with States that were being carried out within the framework of the Emissions Reduction Program.
Intermediate Indicator 12	Unchanged: Number of new community-based, economically viable, REDD+ focused, initiatives with demonstrated potential for replication at scale.	- Measurement methodology was refined to measure the agriculture and forestry inter-sectoral investment plans that were being developed within the framework of the initiative. - Those initiatives were being developed in a highly participatory manner to ensure that local needs were well integrated and had to be formally approved by local authorities. - With the refinements in the indicator's measurement methodology, the end-of-project target was set at 11.
Intermediate Indicator 13	Original: Increase in the proportion of CONAFOR and	- Measurement methodology was revised. - The indicator now measures the percentage of communities

	SAGARPA investments mobilized through the new REDD+ integrated landscape mechanisms in REDD + Early Action Areas. Revised: Percentage of Ejidos and Communities receiving support under Special Programs in REDD+ Early Action Areas.	receiving support under the project's Special Programs in coastal basins in Jalisco and the Yucatan Peninsula. - With the revisions in the indicator's measurement methodology, the end-of-project target was set at 50.

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Supervision/ICR	
Angela G. Armstrong	Task Team Leader(s)
Joao Guilherme Morais de Queiroz, Francisco Rodriguez	Procurement Specialist(s)
Daniel Chalupowicz	Financial Management Specialist
Gabriela Grinsteins	Counsel
Dora Patricia Andrade	Environmental Safeguards Specialist
Franka Braun	Team Member
Gabriel Penaloza	Team Member
Victor Hugo Orozco Olvera	Team Member
Nancy Montes de Oca	Team Member
Diana Gabriela Jimenez Cruz	Team Member
Graciela Reyes Retana De La Torre	Team Member
Stavros Papageorgiou	Team Member
Katharina Siegmann	Team Member
Arelia Jacive Lopez Castaneda	Social Safeguards Specialist

B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US$ (including travel and consultant costs)
Preparation		
FY11	28.684	131,608.73
FY12	34.537	242,137.16
FY13	9.196	45,375.37
FY14	.797	2,083.67
Total	**73.21**	**421,204.93**
Supervision/ICR		
FY12	14.725	77,845.17
FY13	57.456	272,287.07
FY14	53.724	250,494.49
FY15	48.240	233,993.41
FY16	37.867	234,010.33
FY17	43.169	278,444.73
FY18	46.136	365,923.20
FY19	2.666	7,799.20
Total	**303.98**	**1,720,797.60**

ANNEX 3. PROJECT COST BY COMPONENT[61]

Components	Amount at Approval (US$M)	Actual at Project Closing (US$M)	Percentage of Approval (US$M)
Policy Design and Institutional Strengthening	91.66	56.90	62%
Consolidation of Priority Community-Based Programs at National Level	585.00	440.92	75%
Innovation for REDD+ in Early Action Areas	48.34	30.49	63%
Total	**725.00**	**528.31**	**73%**

COMPONENT COSTS BY FINANCING SOURCE

Components	Amount at Approval (US$M)		Actual at Project Closing (US$M)	
	IBRD / FIP	GOM	IBRD / FIP	GOM
1. Policy Design and Institutional Strengthening	41.66	50.00	25.86	31.04
2. Consolidation of Priority Community-Based Programs at National Level	320.00	265.00	286.52	154.40
3. Innovation for REDD+ in Early Action Areas	30.34	18.00	19.53	10.96
Total	**392.00**	**333.00**	**331.91**	**196.00**

[61] While actual disbursements in US$ are less than the original project budget, the project was more than fully disbursed in local currency. This difference is due to the significant exchange rate fluctuations from project preparation to implementation.

ANNEX 4. EFFICIENCY ANALYSIS

1. Under Components 2 and 3, the project supported five CONAFOR programs: Payments for Forest Environmental Services (PES), three Community Sustainable Forest Management Programs (Community Forest Management, PRODEFOR, and *Cadenas*), and the *Programas Especiales*, which address problems in specific geographical areas with a targeted mix of instruments. The project initially supported these programs in their then-current form (as reflected in the *Reglas Operativas* for ProÁrbol for 2012, and the *Lineamientos* for each of the *Programas Especiales*). These programs were then gradually improved thanks to the activities under Components 1 and 3.

Payments for Environmental Services (PES)

2. Over 50% of the incentives given under the project were to PES. The PES program aims to induce landholders to adopt land uses that primarily benefit others—downstream water users, in the case of the hydrological window, for example. As such, this program differs qualitatively from the other CONAFOR programs, which support activities that primarily benefit the participants directly.

3. Participating landholders are paid to conserve existing forests.[62] Contracts are for five years, and are renewable. Applications are ranked according to their score on prioritization criteria (*criterios de prelación*) and are accepted according to their score until the available budget is exhausted. After the first year, payments are conditional on having maintained the enrolled forest area to the prescribed standard and implementing. Payments depend on the biome and, in some cases, on the risk of deforestation (Table A4-1). Part of the payment must be invested in approved forestry activities.

Table A4-1: Payment levels in the PES, 2017

Area	*Risk of deforestation*	*Payment (MXN/ha/yr)*
1. Cloud forest	Very high, high, or medium	1,100
2. Cloud forest	Low or very low	700
3a. Conifer or oak forest	Very high or high	382
3b. Conifer or oak forest	Medium, low or very low	280
4a. Evergreens and mangroves	Very high or high	700
4b. Evergreens and mangroves	Medium, low or very low	550
5. Deciduous forest, or hydrophilic vegetation	Very high or high	382
6. Deciduous forest, or hydrophilic vegetation	Medium, low or very low	280
7. Arid and semi-arid zones, scrub forest, natural grasslands	Very high, high, medium, low or very low	280

[62] Although this is technically an avoided deforestation contract, it also functions as an avoided degradation contract, as it specifies the minimum forest quality that must be maintained (as well as mandating certain protective activities such as reducing the risk of forest fires and proscribing certain damaging activities such as grazing livestock in forest areas).

4. During preparation, the PES program covered about 2.2 million ha. At the end of 2017, the area enrolled had increased to about 2.5 million ha. However, the total area enrolled is likely to decline substantially in future years, as a result of government-wide budget cuts.[63] The average payment is about MXN400/ha/yr.

5. *PAD economic analysis*. The analysis conducted for the PAD concluded that the PES program as then implemented had costs of between USD32/ha/year and USD2/ha/year. The only quantifiable benefit, carbon sequestration, had an average value of about USD6.5/ha (assuming a carbon price of USD5/tCO_2 and that 20% of that price is spent on transaction costs). Nevertheless, it concluded that the program was likely cost-effective for the country, as only modest average levels of hydrological and other benefits per hectare (which could not be quantified) would be sufficient to justify the program. The analysis further concluded that improving targeting to the point that 1 in 10 enrolled hectares achieved average emissions reductions of 170tCO_2/ha, the average benefit *from carbon payments alone* (net of the costs of participating in the REDD mechanism), would come to USD68/ha, or USD4.5/ha/year over 30 years at 5% interest rate.

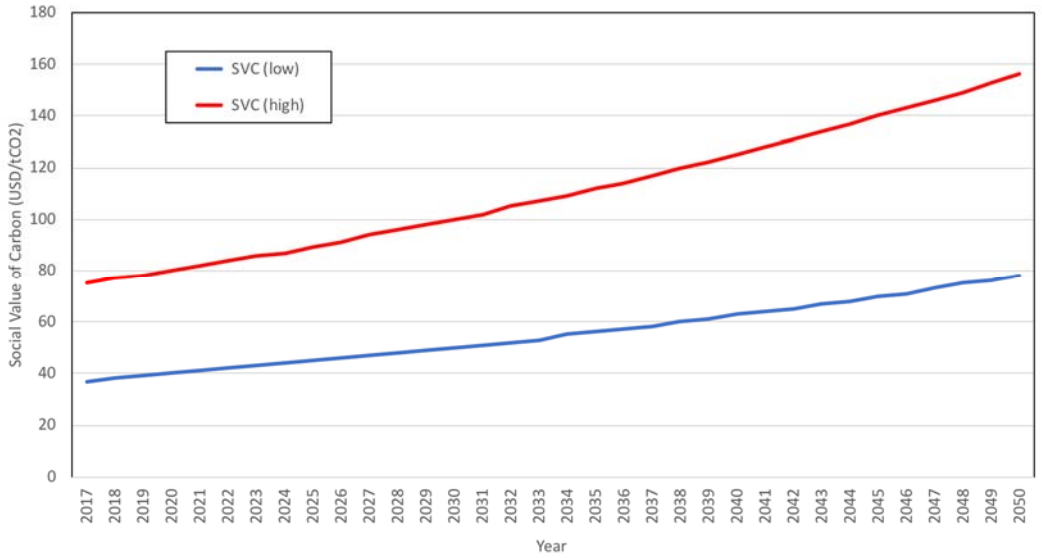
6. *ICR economic analysis*. The analysis of the PES program follows the same logic as that of the PAD. From an economic perspective, the PES program's benefits to Mexico depend on the degree to which it succeeds in avoiding deforestation or degradation that would have occurred in the absence of the program; on the difference in the value of the desired services generated by conserved forests compared to the value of the services that would be generated by degraded forests or under alternative land uses; and on the opportunity cost of conservation and the incremental cost of the program. As in the PAD, a full cost-benefit analysis cannot be conducted because of the difficulty of measuring many of the benefits. Accordingly, as in the PAD, a break-even analysis is conducted, comparing measurable benefits to costs and assessing whether they are sufficient by themselves to justify the program, and if not whether it is likely that the un-measured benefits would be sufficient to do so, if they could be measured.

7. *Costs*. The upper bounds of the economic costs of the program is estimated based on the assumption that participants would only enroll if their opportunity costs are lower than the payments they receive, net of out-of-pocket costs of participation; the estimated additionality of the program; and the costs of implementing the program. During preparation, the upper bound on opportunity cost was assumed to be set by the payment amount. As half of the payment must now be spent on prescribed forest activities, the value of the payments to recipients is lower, and so the upper bound on opportunity costs is correspondingly lower. As the forest activities might generate some benefits for participants, however, the full value of spending on these activities cannot be deducted; we assume that about half of the spending on forest activities is a net cost to participants. In areas that would not have been conserved without PES, the upper value of opportunity costs is about 75% of the payment amount, and thus ranges from about MXN210/ha/yr (about USD10) to MXN800/ha/yr (about USD40), depending on the area, or about MSX300/ha/yr (about USD15) on average. Conversely, these forest activity costs are borne even when there is no additionality, so the upper bound on costs of participation ranges from about MXN70/ha/yr (about USD4) to MXN275/ha/yr (about USD13), depending on the area, or about MSX100/ha/yr (about USD5) on average. The operating costs of the programs add about USD3/ha/yr to these amounts.

[63] Only 271,000 ha were enrolled in 2017, a rate of enrolment that, if maintained, would result in a program of about 1.4 million ha at any given time.

8. *Benefits*. The PES aims to generate a variety of benefits. Hydrological benefits provided the initial motivation to establish the program and continue to be a major objective. Others include carbon sequestration and biodiversity conservation. Of these, however, only carbon sequestration can be estimated.

9. *Carbon benefits*. At the time the PAD was prepared, there was no explicit guidance on how to value carbon sequestration benefits. The PAD's economic analysis valued carbon at US$5/tCO$_2$, based on the implicit value per ton under the recent agreements Norway signed with Brazil and Guyana. Current guidance[64] is to estimate global project benefits with emissions reductions valued at the social value of carbon (SVC), under 'low' and 'high' estimates, as shown in Table A4-1. We also estimate the benefits to Mexico based on the price expected to be paid under their emission reduction agreement with the Carbon Fund (about USD5/tCO$_2$, of which about 20% is needed to cover the costs of MRV).



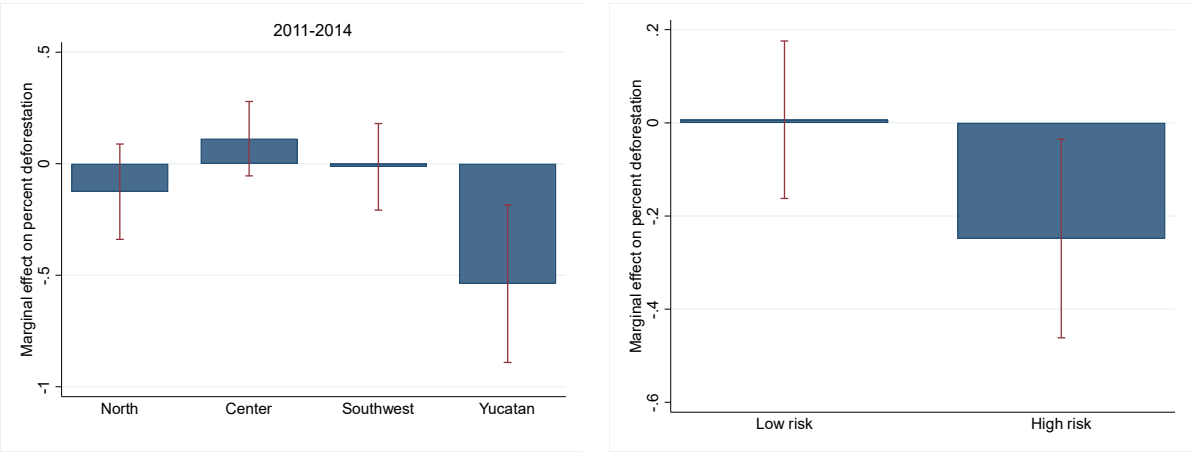
Source: World Bank. 2017. "Guidance note on shadow price of carbon in economic analysis." Washington: World Bank.

Figure A4-1: Estimated social value of carbon

10. *Additionality*. The extent to which the PES program actually reduces deforestation is a critical variable.[65] Some participants would have conserved forests even in the absence of PES payments. In their case, the opportunity cost of conservation is zero; the economic cost of their participation is thus limited to the costs of implementing the program. Conversely, their forests provide no additional benefits as they would have been conserved anyway—no additional carbon sequestration, and no improvements in hydrological services or biodiversity conservation. The PAD's estimates were based on estimates by Alix-Garcia and others (2012, 2015)[66], Sims and Alix-Garcia (2017), and INE (Muñoz Piña, 2011), who found that the PES had reduced deforestation rates among participants by about 25-50% (depending on methodology and unit of analysis), but that many properties enrolled in the program had a relatively low expected rate of overall deforestation.

[64] World Bank. 2017. "Guidance note on shadow price of carbon in economic analysis." Washington: World Bank.
[65] For a review of the effectiveness of PES programs, see Börner and others (2017).
[66] The PAD relied on a draft of these papers, presented at the 4th World Congress of Environmental and Resource Economists, Montréal, June 28-July 2, 2010.

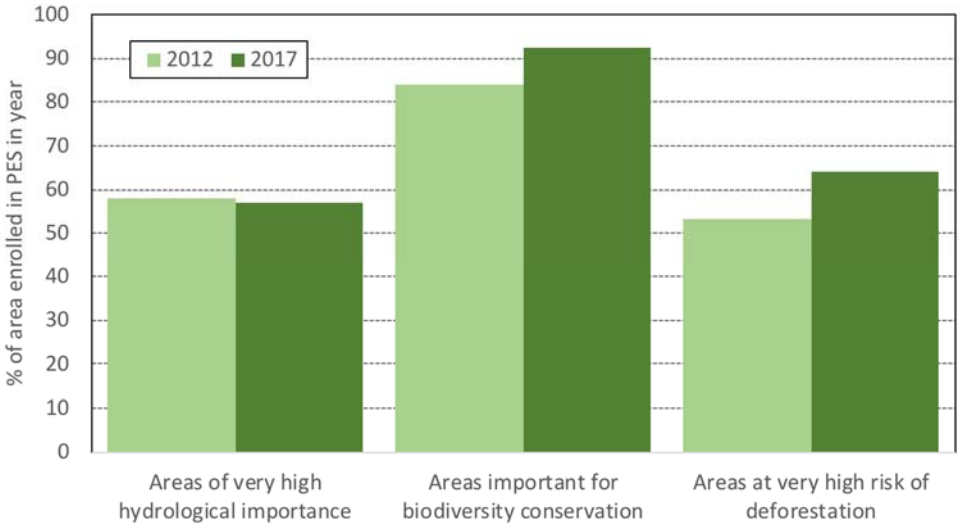
11. The project commissioned a new analysis of the PES program's additionality, with support from the i2i program (Alix-Garcia and others, 2018). This analysis found that deforestation among PES participants was reduced by about half. However, because of limitations in the data on deforestation, this impact was not statistically significant. However, it did find the PES had a statistically significant impact on deforestation in the Yucatán Peninsula (Figure A4-2, panel A), which is the region with the highest rates of deforestation. It also found a statistically significant impact on deforestation in areas at high risk of deforestation (Figure A4-2, panel B). It should be noted that this analysis only uses data from participants enrolled between 2011 and 2014, and so does not include the effect of more recent improvements to the PES program. In particular, they do not include the effect of recent changes in targeting that have resulted in a greater proportion of the enrolled areas being in areas at high risk of deforestation (see Figure A4-3 below), which would have increased additionality.



A. Effect by region B. Effect by deforestation risk

Source: Alix-Garcia and others, 2018.

Figure A4-2: Effect of PES on forest loss, 2011-2014, by region



Source: CONAFOR data.

Figure A4-3: Changes in PES targeting, 2012 and 2017

12. *Targeting.* Project benefits are also increased if more of the enrolled forest is in high-value areas. The PES program uses prioritization criteria (*criterios de prelación*) to rank applications, and then enrolls the highest-ranked applications until the available budget is exhausted. These criteria have been continually revised to improve targeting. As shown in Figure A4-3, these efforts have succeeded in increasing the proportion of forest enrolled in areas that are important for biodiversity conservation from 84% in 2012 to over 92% in 2017, while the forest area enrolled located in areas at very high risk of deforestation has increased from 53% in 2012 to over 64% in 2017. The forest area enrolled in areas of very high hydrological importance, on the other hand, has remained essentially unchanged.[67] It is worth noting that as project funding declines, targeting will improve as fewer applicants with low point values will be accepted.

13. INECC has estimated the actual avoided emissions in areas where deforestation is avoided varied from about 113 tCO_2/ha to over 200 tCO_2/ha, with an average of 170 tCO_2/ha. At USD5/tCO_2, this would generate payments of about USD30/ha/yr to USD54/ha/yr (assuming payments for avoided deforestation are received over 30 years, at 6% discount rate). Given estimated costs of about USD18/ha/yr when conservation is additional and about USD8/ha/yr when it is not, even the lower of these estimated payments are sufficient by themselves to justify the PES program as long as at least 40% of the forest area conserved is additional[68]; at higher payments, lower levels of additionality would be sufficient. Given that the impact evaluation estimated that deforestation among participants has been reduced by about half, it is quite likely that the PES program is justified from Mexico's perspective based on carbon benefits alone, even at relatively modest carbon prices. Any hydrological and biodiversity benefits that the PES program generates would strengthen this conclusion. If carbon is valued at the SVC, then the extent of additionality needed to justify the program is considerably lower.

14. *Financial analysis.* From the landholders' perspective, the costs of participation include the opportunity costs of the most profitable alternative to forests, plus any out of pocket costs resulting from the need to comply with their contracts (such as the cost of undertaking fire patrols), plus the cost of undertaking the prescribed forest activities. The benefits include the payment received and any benefits they may derive from the conserved forest area in ways that do not conflict with contract requirements, and any benefits generated from the prescribed forest activities. The PES program has been very popular, and regularly receives applications covering substantially greater areas than its budget allows it to enroll. This suggests that participation is financially beneficial to participating landholders; if it were not, they could simply choose not to participate. In addition to financial benefits, participating communities also benefitted through improvements in social capital.

Community Sustainable Forest Management

15. Under Components 2 and 3, the FCC project supported CONAFOR programs aimed at helping communities make the transition from un-managed to managed forest or to improve forest management. Although the Economic Analysis in the PAD only covered the PES, to complement this analysis and account for SFM activities supported under Component 2, we estimate the net returns of undertaking each of the

[67] This is likely because efforts during most of the project focused on other aspects of targeting—particularly improving enrolment in areas at high risk of deforestation. Efforts are currently being made to improve targeting to important hydrological areas, including targeting to critical areas within priority areas.
[68] The breakeven additionality is lower than estimated in the PAD because the estimated upper bound on opportunity cost is lower, due to requirement for participants to spend part of the payment on forest activities.

two main land use transitions shown in Table A4-2, from forest under basic management and low value-added, into well-managed productive forest with greater value added.

Table A4-2: Main land-use transitions related to forest-management supported by the FCC Project

Initial land use	*Land use adopted under project*
1. Forest management Unmanaged forests with productive potential	Sustainable forest management
2. Improved forest management Forest under basic management and low value added	Well-managed productive forest with greater value added

16. The analysis of these transitions is based on data from the GEF-financed *Biodiversity in Production Forests in Certified Markets Project* (BPF project), implemented by CONAFOR with UNEP support in 2011-2016, and on a study of the competitiveness of CFEs in Mexico (Cubbage and others, 2015).

17. The BPF project supported the improvement of the production and productivity capacity of 32 CFEs. The average annual forest income of these CFEs was US$1.3 million in 2016, a 20% increase compared to 2015, representing total benefits of approximately US$7 million in that year. The increase in income resulted from the modernization of the sawmill industry and therefore an increase in production and productivity, improvements in costs control processes, better administrative and sawing practices, increase in the authorized volumes for harvesting, technical assistance for the development and promotion of forestry products, costs restructuration, access to new markets, including international markets, and to better prices. In the same period, the production costs remained almost the same. (UNEP, 2017). Moreover, forest cover increased in 0.5% from 2012 to 2016 in 185 permanently monitored sites, and the number of observed species increased by 4.6%. Also, women's participation in CFEs increased from 1% to 7%. Because FCC participants are broadly similar to communities that received similar support under the PBF, they are expected to have similar results.

18. Net returns of CFEs were estimated for a sample of 30 CFE in Mexico using data from Cubage and others (2013).[69] Overall, CFE with certification reported incremental benefits, compared to CFEs without certification. Communities that managed forests but sold standing timber had a net return of USD50/ha without certification and of USD62/ha with certification, while communities that managed forests and harvested timber had returns of USD60/ha without certification and of USD88/ha with certification. The greatest effect of certification was on communities that transformed timber to sawnwood, who had a net return of only USD19/ha without certification but of USD67/ha with certification. Considering that only those forests managed with certain technological and organizational levels can be certified, the data demonstrates the value of facilitating the access to technology and strengthening the capacities of CFEs. The vertical integration of CFEs also generates incremental benefits. Overall, Cubbage and others (2015) found returns on investment of 442% for forest management, 70% for timber harvesting, and 65% for processing.

19. *Assumptions*. Because the costs and benefits of SFM to participants and the environment are likely to vary depending on the type of forests, we present separate analyses for tropical and temperate forest.

[69] An outlier with annual harvest of 0.03m^3/ha and total costs of USD 180/m^3 was excluded from the estimates.

The main assumptions are summarized in Table A4-3. To estimate the opportunity cost of the transition we assume a business as usual (BAU) deforestation of 0.008 ha/year (Lara and others, 2014). Considering that most of the forest cleared in Mexico is used for grazing, we assume the opportunity cost of the transition from unmanaged to managed forest using average returns from livestock production, estimated at USD100/ha. The social NPV includes carbon benefits from the transition to SFM, as evidence suggests that forest under management in Mexico increase their capacity for carbon storage. We use an estimate of 3.8tCO_2e/ha/year +/- 20% for tropical forests and 5tCO_2e/ha/year +/- 20% for temperate forests.[70]

Table A4-3: Summary table of assumptions: transition to SFM

	Tropical Forest	*Temperate Forest*
Planted species	Mahogany	Pine
Project duration	60-year rotation	50-year rotation
Project size	1000 ha	1000 ha
Carbon storage capacity under SFM (min, max) (a)	3.04, 4.5tC/ha/yr	4, 6tC/ha/yr
Total yield	1.8 m^3/ha/yr	22 m^3/ha @ yrs 5, 20, 35, 50
CONAFOR support for management plan	2 USD/ha	2 USD/ha
CONAFOR support to strengthening social organization and governance @yrs 0, 10, 20, 30 and 40	9.52 USD/ha	9.52 USD/ha
Harvesting costs		
- mid	125 USD/ha/yr	464 USD/ha @ yrs 5, 20, 35, 50
- pessimistic	150 USD/ha/yr	
- optimistic	100 USD/ha/yr	
Annual management costs		
- mid	55 USD/ha/yr	21 USD/ha/yr
- pessimistic	63 USD/ha/yr	
- optimistic	30 USD/ha/yr	
Price of roundwood		
- mid	175 USD/m^3	52 USD/m^3
- pessimistic	109 USD/m^3	45 USD/m^3
- optimistic	217 USD/m^3	66 USD/m^3
Opportunity cost (alternative income of extensive livestock) (b)	100 USD/ha/yr	USD 100 ha/yr
Transaction costs (administrative costs to CONAFOR)	2.1 USD/ha/yr	2.1 USD/ha/yr
Carbon emissions under BAU from extensive livestock (c)	1.2tC/ha/yr	1.2tC/ha/yr

Sources: (a) CONAFOR based on data from the National Forest Inventory; (b) Jaramillo (2002); (c) Lara and others (2014). Project characteristics of a SFM project in tropical forests, including optimistic and pessimistic scenarios, were adapted from Lara and other (2014). For temperate forests, data was adapted from INECC (2016); optimistic and pessimistic roundwood prices for temperate forests were obtained from CONAFOR (2017).

20. *Private (financial) analysis.* These estimates indicate whether undertaking these transitions were profitable for participating communities. They include the value of support provided by CONAFOR to communities undertaking these transitions, but do not include the social benefits of externalities

[70] Estimate by using Ex-Act tool and based on data from the National Forest Inventory.

generated by forests. As participation is voluntary, communities are unlikely to undertake these transitions if they are not profitable from their perspective, or will only do so while receiving support from CONAFOR, and then abandon them. Based on the data, the transition from unmanaged forests with productive potential to SFM was profitable for participating communities, with NPVs of over US$1,100/ha in tropical forests and over US$1,000/ha in temperate forests (Table A4-4). Profitability remains robust even at 20% discount rate.

21. *Social (economic) analysis*. These estimates show the net returns for society of undertaking each main land use transition. They omit the value of support provided by CONAFOR to communities (as these are transfers), but do include the social benefits of externalities generated by forests to the extent possible. This transition has positive social returns in both tropical and temperate forest (Table A4-4). From the national perspective, this transition generated positive social returns, with an estimated NPV of US$1,100/ha in tropical forests and US$1,000/ha in temperate forests. Although there is a small chance that returns were negative in tropical forests, the potential losses were also small. Returns were expected to be positive in temperate forests. The estimates remain positive even under 20% discount rates. The estimated benefits are even higher when carbon is valued, even with low values, with NPVs of over USD3,200/ha in tropical forests and about USD3,600 in temperate forests.

Table A4-4: Estimated benefits of transition of unmanaged forests with productive potential to SFM

Discount rate (percent)	Private NPV (USD/ha)	Social NPV - National perspective (USD/ha)	Social NPV - Global perspective (USD/ha)	
		Without C	Low SVC	High SVC
	Tropical forests			
4			7,753 (4,726 – 10,488)	16,707 (13,580 – 19,342)
10	1,148 (-217 – 2,297)	1,132 (-232 – 2,281)	3,177 (1,812 – 4,326)	6,593 (5,229 – 7,743)
20	548 (-83 – 1,079)	536 (-94 – 1,067)		
	Temperate forests			
4			8,267 (8,009 – 8,783)	19,649 (19,391– 20,164)
10	1,059 (941 – 1,296)	1,043 (924 – 1,280)	3,551 (3,433 – 3,788)	7,942 (7,824 – 8,179)
20	641 (583 – 755)	629 (572 – 744)		

Notes: Other externalities not quantified: Local climate and air quality, moderation of extreme events, erosion prevention and maintenance of soil fertility, biological control, habitat for species, maintenance of genetic diversity, water quantity and quality

Source: Own elaboration with data from Lara and others, 2014; INECC, 2016; The World Bank, 2017; and

CONAFOR, 2013

Table A4-5: Estimated benefits of transition of unmanaged forests with productive potential to SFM

Discount rate (percent)	*Private NPV (USD/ha)*	*Social NPV - National perspective (USD/ha)*	*Social NPV - Global perspective (USD/ha)*	
		Without C	*Low SVC*	*High SVC*
		Tropical forests		
4			7,753 (4,726 – 10,488)	16,707 (13,580 – 19,342)
10	1,148 (-217 – 2,297)	1,132 (-232 – 2,281)	3,177 (1,812 – 4,326)	6,593 (5,229 – 7,743)
20	548 (-83 – 1,079)	536 (-94 – 1,067)		
		Temperate forests		
4			8,267 (8,009 – 8,783)	19,649 (19,391–20,164)
10	1,059 (941 – 1,296)	1,043 (924 – 1,280)	3,551 (3,433 – 3,788)	7,942 (7,824 – 8,179)
20	641 (583 – 755)	629 (572 – 744)		

Notes: Other externalities not quantified: Local climate and air quality, moderation of extreme events, erosion prevention and maintenance of soil fertility, biological control, habitat for species, maintenance of genetic diversity, water quantity and quality

Source: Own elaboration with data from Lara and others, 2014; INECC, 2016; The World Bank, 2017; and CONAFOR, 2013

Conclusions

19. Even though most environmental benefits of the PES and SFM programs could not be estimated, both programs appear to be generating sufficient benefits to justify their costs.

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C. Impact Evaluation of Mexico's Payments for Ecosystem Services Program 2011-2014[71]

1. Although this impact evaluation strategy focused on REDD+ activities under Component 3, and CONAFOR's redesign of the external evaluation mechanism, with a new focus on measuring the programs´ net effect and impact evaluation, did not come to fruition, a ground-breaking evaluation of Mexico's PES program was carried out.

2. The evaluation sought to understand how the PES program affected land-cover management activities and land cover change, communal social capital, and socioeconomic indicators of participant communities and households. Hence, Regression Discontinuity (RD)[72] was used to identify impacts, comparing outcomes for beneficiaries and similar rejected applicants close to program scoring cutoffs for each state, year and sub-program.

3. The key finds of the evaluation are presented below:

   - Land-cover management attributable to the program:
     (i) participant communities significantly increased management activities to protect land cover;
     (ii) a greater than 50% increase, compared to controls, in community land cover management activities was found; and
     (iii) an increase of 2.7 days/year/household spent on land management activities was noticed.

   - Land-cover change. Due to satellite data limitations and overall low rates of cover change during the study period, minimum detectable effect sizes of direct impacts on cover change were of roughly the same order of magnitude as the rate of forest loss among controls, making it difficult to detect anything except a 100% impact of the program.

     An analysis, drawing on the only published data source with annual variation: (i) suggests the program likely reduced the rate of loss of tree cover; (ii) estimates the program significantly reduced the loss of tree cover by approximately 40% within areas at elevated risk of deforestation; (iii) found larger

[71] Evaluation of Mexico's Payments for Environmental Services Program: 2011-2014 – Report for CONAFORT-SEMARNAT-CONEVAL – February 2018.

[72] Use of RD to identify impacts represented a methodological improvement upon prior studies, which relied on matching or differences between all accepted and rejected applicants. RD relies on fewer assumptions than other quasi-experimental methods and is thus more likely to produce valid causal estimates of program impact. To the team's knowledge, this is the first paper to use RD design to identify impacts of payments for ecosystem services globally.

reductions of land cover change in the Yucatan peninsula; (iv) estimated, although imprecisely, percentage change in loss rates similar in magnitude to prior studies, which found 20-50% changes depending on method used. Despite satellite data limitations and overall low rate of loss, these overall low rates of cover change also signify possible national effectiveness of the multiple programs Mexico has implemented under REDD+ strategies.

- Social Capital. The analysis found that:
  (i) the program's conditional payments maintained or made modest improvements both in pro-social work efforts and measures of social capital at the communal and household level;
  (ii) across all cohorts, a significant 8% increase in an index of community social capital was found, compared to controls (a magnitude of 0.40 standard deviations);
  (iii) additional time spent in land management activities does not crowd out other community work devoted by households.

- Socioeconomic indicators status. Estimated impacts on socioeconomic indicators are small and not statistically significant for changes in average household assets, housing stock, food consumption and primary education. Conversely, a 20-25% statistically significant increase in community infrastructure in comparison with controls, and a substantive 30-40% increase in school attendance by 16-18-year-olds were found.

4. *Conclusions and recommendations*. There was a substantial increase in land-cover management activities, which suggests PES effectively generated behavioral changes at community and household levels, with the potential to increase provision of ecosystem services (that is, accomplished the main goal of the program.) The findings also suggest that the program should continue to be supported. Further, experimental evidence from other countries point out challenges in promoting social capital. As such, the finding that PES maintains or slightly improves social capital is an important and novel result, as this is the first evaluation of social capital impacts of a major national-level PES program. The study also supports the conclusion that paying for conservation under REDD+ schemes can support pro-social behavior.

5. In addition, significant reductions in land-cover change in high risk of loss areas indicates PES is effective where land cover is most threatened. This suggests an important opportunity to re-target the program in the most ecologically important zones, if situations of tradeoff between environmental goals and livelihood support are avoided. As such, CONAFOR has already placed additional priority on high risk-of-loss zones and additional prioritization is this direction could potentially increase program benefits.

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

The Forests and Climate Change Project has helped consolidate and improve CONAFOR's incentive programs for community forestry and environmental services, and utilize them as key elements of the National REDD+ Strategy. It has also helped strengthen CONAFOR as a world-class forest agency, promote the alignment of rural development policies and programs, and pilot innovative REDD+ approaches in Early Action Areas. Key project achievements are summarized below:

Monitoring, Reporting and Verification

1. The National Monitoring, Reporting and Verification System (SNMRV) for REDD+ has generated important national reports, such as the Reference Level of Forest Emissions (NREF) of the country, the National Inventory of Greenhouse Gas Emissions for the USCUSS sector as part of the First Biennial Update Report (BUR) and the Forest Emissions Reference Levels of the Emissions Reduction Initiative (IRE).

2. To institutionalize the SNMRV, CONAFOR created the Specialized Technical Unit in Monitoring, Reporting and Verification (UTEMRV) within the National Forestry Monitoring System Management.

   Recently, the UTEMRV has achieved substantial improvements to the National System of Monitoring, Reporting and Verification, which have been used in the following reports and / or commitments in terms of mitigating climate change in the forestry sector:

   • National Inventory of Emissions of Gases and Greenhouse Compounds-LULUCF (1990-2015) as part of the 6th National Communication before the UNFCCC

   • Information for the 2nd BUR Biennial Update Report of Mexico before the UNFCCC (update 2014-2015)

   • Estimation of the Mitigation Potential of the NDC-USCUSS Specific Targets (Achieve a rate of 0% net deforestation by 2030 and Increase total biomass stocks in ecosystems under sustainable forest management)

   • Update of the FREL for the IRE

   • Estimation of the Mitigation Potential of the IRE and the Sustainable Productive Territories Project

Communication Plan

3. The Project had a Communication Strategy with the objective of disseminating and sharing strategic initiatives, as well as informing target audiences about the Project and its results.

   In this regard, various dissemination materials and knowledge tools were generated, including manuals for communicators, safeguards booklets, posters on indigenous rights, books on mechanisms for citizen attention. Audiovisual materials were produced with themes related to the Project as part of a cultural

outreach campaign on climate change. A series of videos about relict forests of Mexico was produced, and a video about the results of the Project. A large-format book was published and published in which success stories of the ejidos and communities supported were documented, as well as the results in the three components. A section was also assigned on the CONAFOR website where project documents and the book that reports the results were published, an editorial product that is available for download.

National Strategies

4. The National Sustainable Forest Management Strategy for Increasing Production and Productivity (ENAIPROS), the Payment for Environmental Services (PES) program and forest restoration schemes in priority watersheds for the economic development of ejidos and communities in Mexico were strengthened, based on their forestry activity.

5. The National Strategy for the Reduction of Emissions from Deforestation and Forest Degradation (ENAREDD +) was elaborated.

Sustainable Forest Management

6. Over the course of six years, the Project contributed to improving sustainable forest management, with which productivity is increased, economic wealth is generated, and jobs for the inhabitants of these ecosystems, while providing goods and services, environmental services, and guarantee the conservation of biodiversity in the present and future of the forests and jungles of Mexico.

7. The Project had a high impact in the forest areas of the country where it was implemented, since its results are positive in terms of forest area with sustainable management, which increased almost double during the life of the project and in the last year 2017, the increase was over 36% compared to the base year. Likewise, the number of ejidos and beneficiary communities in force increased from 1,923 to 2,622 from the beginning of the project.

REDD+ EAA

8. In relation to investments in communities of REDD + Early Action Areas (REDD+ EAA), at the close of the project 29% of the ejidos and communities in REDD+ EAA received support from the Special Programs, close to the 30% goal. In relation to the percentage of ejidos and communities with current support of the Special Programs in AAT-REDD + that received support from innovative landscape management agents, the goal of project closure was exceeded, with 51% (compared to the goal of 50%).

Innovative Schemes

9. The priority watershed restoration program (special programs) represents an innovative and more efficient restoration scheme for the restoration of degraded forest areas. This scheme implements multi-year activities to prevent soil loss, catchment and water infiltration to achieve a good reforestation, as well as, assistance for the occupation of the productive land to the landowners until the establishment of the coverage is achieved. With this, the owners and users of the natural resources that live in these priority regions benefit from the generation of jobs in rural communities, the diversification of productive activities

in the area and the production of environmental services. In the period 2012-2017, forest restoration was carried out on 69,937 ha. This program was part of a category of support that could be financed by the Forests and Climate Change Project, over this period, the Project had a total disbursed of 42,110 hectares corresponding to ejidos and communities, of 11 Mexican states.

Payment for Environmental Services

10. The following table shows the main achievements of the project regarding PES:

Subject	Achievements and impacts
Impact Evaluation of the Payment for Environmental Services Program.	✓ The Payment Program for Environmental Services of CONAFOR was evaluated for the period 2011-2014, which is recognized as one of the most mature and largest in the world. ✓ The evaluation used the discontinuous regression methodology, which is innovative in the context of public policy impact evaluations. Its application was possible thanks to the systematization of the data and organization of the operation of CONAFOR. ✓ It is the first evaluation of all the environmental sector, of the 18 carried out since 2007 to the federal government programs. ✓ The results show that the program has improved the dedication and activities of sustainable forest management, in addition to strengthening social capital, reaches marginalized communities, represents an important source of financing, manages to contribute to maintain levels of economic well-being and has reduced the rate of deforestation of ecosystems.
PES Focus[73]	✓ The environmental criteria were strengthened, going from 55% of the specific weight to 78%. ✓ High[74] economic pressure on deforestation, at 76%. ✓ 87% natural disasters. ✓ Areas with high hydrological value at 80%. ✓ Natural Protected Areas at 44%. ✓ 90% social property.
Consolidation of Local PES Mechanisms through Concurrent Funds	✓ There are partners with greater reliability in their economic contribution. ✓ Interest in contributing resources increased, which was reflected in a larger area. ✓ The efficiency of the operation was improved. ✓ Contributions to the Mexican Forest Fund were increased. ✓ Studies of Local PES Mechanisms were carried out under international cooperation with Duke University, which led to recommendations for improvement.

[73] Values calculated based on the current PSA area as of December 2017.
[74] The values of medium high and very high are considered according to the National Institute of Ecology and Climate Change (INECC).

Subject	Achievements and impacts
Biodiversity Heritage Fund	✓ In 2014 the management of a donation of 9 million dollars was achieved. ✓ The area was increased from 6,918 to 34,904 hectares, which represents an increase of 505%. ✓ Focus was optimized with tools such as Corridor Design and expert advice was available.
Integration strategy for the conservation and sustainable use of biodiversity (Forestry sector 2016-2022)	✓ A strategy for integration was developed for the conservation and sustainable use of biodiversity. ✓ Implementation began by managing a pilot unit with donation resources. ✓ The special issue of Biodiversity was published in the forestry innovation magazine. ✓ The Biodiversity Community Monitoring Guide (BIOCOMUN) was carried out.
The PES transits to a vision of active conservation	✓ The Operating Rules established an investment obligation of 40% in good management practices. ✓ Operating Rules encourage the development of productive projects linked to the conservation and sustainable management of the ecosystem. ✓ The operation improves the synergy and impacts of the PES program in the territory, through coordination with fire, health, restoration, biodiversity monitoring and ENAIPROS strategies. ✓ Documented success stories of beneficiaries who have made progress in this vision.
The PES approaches the indigenous population	✓ The edition of the video "Esas cosas especiales" was made to create 4 capsules in indigenous languages (Mayan, Nahuatl de la Huasteca, Tzeltal and Tsotsil). ✓ Carte Posters on the PES were designed in four ecosystems (forests, forests, arid zones and mangroves) in six indigenous languages (Maya, Mazatec of the north, Nahuatl of the Huasteca, Tarahumara, Tzeltal and Tsotsil.
Strengthening the PES communication strategy	✓ Animated PES infographic was made and disseminated. ✓ The guide to participate in the PES program was made and distributed. ✓ Successful PSA cases were documented and disseminated. ✓ The special issue of the PES in the forestry innovation journal was published (development).

Other considerations:

11. It is important to mention that the collaboration among all agencies involved (CONAFOR, SHCP, NAFIN and the World Bank) during implementation of the project significantly contributed to enhanced institutional capacity, particularly for procurement related matters.

12. **Procurement**: Initially, appraisal indicated a solid capacity and knowledge about the Bank's procurement policies and regulations. Although, in the first post procurement review by the Bank in March 2015, recommendations were provided to support an improvement in the management of bidding processes, including: (i) better planning and scheduling of procurement processes, ensuring better effectiveness while contracting, (ii) in the case of Request for Quotations as a selected method, it was recommended to broaden the catalogue of suppliers, promoting greater competitiveness within the market and avoiding the risk of non-compliance and having several contracts at a time with a single service provider, (iii) before proceeding to process the payment of the goods or services, it was recommended to issue a technical evaluation report, dated and numbered, with the names and signatures of those responsible, as well as the issuance of an opinion or technical report about the satisfaction of the delivered products; this review was made in general terms, which was satisfactory and in compliance with the provisions of the regulatory framework. Likewise, in the last Post Procurement Review, carried out in August of 2017, whose result was established between the Bank, NAFIN and CONAFOR, which concluded with previous recommendations, however, some recommendations for improvement actions that were detected in the first hiring. Also, there were found some other areas of opportunity that can cause compliance risk of acquisitions. No fraud and corruption issues related to Procurement activities were found during project implementation. It is worth noting that CONAFOR has shown during the execution of the project that it has a work team with the best experience; likewise, it has implemented some of the recommendations identified in the first ex post review, in order to generate greater competitiveness, allowing for better execution. The management of procurement processes at project closing is considered **Satisfactory** by the Government. NAFIN as Financial Agent was responsible for administering de IBRD resources and monitoring procurement processes and supported the project at all stages.

13. **Financial Management.** The project had strong financial control measures, including: (i) the use of robust national FM procedures; (ii) project integration within the national budget; (iii) selection of beneficiaries and subsidies (national programs, PES, special programs, among others, based on CONAFOR's operating rules and guidelines; (iv) reimbursement of eligible expenditures recorded under earmarked budgetary lines and pre-financed by the Government; (v) use of the Governmental Resource Planning system for records and control purposes of all project transactions; (vi) internal audit procedures in line with Public Audit Standards and Guidelines, issued by Public Administration Ministry; (vii) ample experience of CONAFOR staff working with Bank-financed operations; (xi) NAFIN's support to CONAFOR on key fiduciary-related issues; and (xii) at least two, on-site FM supervision missions per year.

14. CONAFOR demonstrated strong institutional structures and capacities for project implementation. CONAFOR's Financing Department had ample experience working with Bank-financed operations and a strong system of internal and external controls in place, which the WB considered satisfactory.

15. Other comments from SHCP, NAFIN and CONAFOR have been included in the main text.

ANNEX 6. SUPPORTING DOCUMENTS

Project Concept Note (PCN), Project Information Document (PID), Integrated Safeguards Data Sheet (ISDS)	Ops Portal -P123760- Key Docs.
Project Appraisal Document (PAD)	Ops Portal -P123760- Key Docs.
Loan Agreement and Grant Agreement	Ops Portal -P123760- Key Docs.
Operational Manuals	Ops Portal -P123760- Key Docs.
Restructuring Papers (2015, 2017)	Ops Portal -P123760- Key Docs.
Back to Office Reports (Preparation)	Ops Portal -P123760- Key Docs.
Supervision Aide Memoires (AMs)	Ops Portal -P123760- Key Docs.
Implementation Status and Results (ISR) Reports	Ops Portal -P123760- WB Docs.
Procurement PPRs and AMs	Ops Portal -P123760- Key Docs.
Audit Reports	Ops Portal -P123760- Key Docs.
Indigenous Peoples Plan	Ops Portal -P123760- Key Docs.
Environmental Assessment	Ops Portal -P123760- Key Docs.
Programa de Inversión Forestal – Plan de Inversión: México (FIP – Mexico Investment Plan)	http://www.conafor.gob.mx:8080/*documentos/docs/35/3974Plan%20de%20Inversi%C3%B3n%20Forestal.pdf*
Mexico - Country Partnership Strategy 2008-2013	Report No 42846-MX
Mexico - Plan Nacional de Desarrollo 2007-2012	ISBN 978-970-734-184-5 ISBN 978-970-734-184-x
Mexico - Country Partnership Strategy 2014-2019	Report No 80800-MX
Mexico - Plan Nacional de Desarrollo 2013-2018	HTTP://pnd.gob.mx
Evaluation of Mexico's Payments for Environmental Services Program: 2011-2014. Report for CONAFORT-SEMARNAT-CONEVAL (Feb. 2018)	https://www.gob.mx/conafor#1990

ANNEX 7: INDEXES ON SOCIAL ORGANIZATION AND FOREST ACTIVITIES ECONOMIC DEVELOPMENT

A. Introduction

1. The Social Organization Index (SOI) and the Forest Activities Economic Development Index (FA-EDI) were originally designed by Leticia Merino and Ana Eugenia Martínez, both researchers of the Institute of Social Research of the Metropolitan Autonomous National University (UNAM in Spanish). The rational and methodology of these indexes, as well as the results of their application through a sample of 123 C&Es are described in a 2011 publication.[75]

2. The objective of the research was to enhance the knowledge of the Mexican C&Es involved in forest management with respect to their conditions and dynamics, taking into consideration the new challenges they have been facing (growing agriculture pressure on forests, land tenure reforms, competitiveness of timber markets, migration of C&E members…etc.). The most relevant hypothesis mentioned in this study are related to: i) the strong links between the successful sustainable forest management and the level of social capital and strength of the local institutions in the C&E, and ii) the correlation between deforestation, illegal logging, lack of control of fire and the poor level of local organization and the barriers of access to formal forest management authorizations.

3. During the FCC preparation, the CONAFOR and WB teams identified the L. Merina and A.E, Martinez work as a relevant methodology to measure the effects of the C&E support programs included in the Component 2 of the Project, therefore SOI and FA-EDI were converted in Intermediate indicators of the FCC. As a result of this decision, the M&E team of CONAFOR made some adjustments of the index methodology and designed a sampling scheme, with the technical support of the Chapingo University of Mexico. The measurement of theses indexes started in 2011, with a baseline survey that was carried out in 370 C&Es, as part of the national CONAFOR beneficiary survey. Then, annual surveys were undertaken from 2012 to 2014, and finally the last one in 2016.

4. Within the context of the midterm evaluation of the FCC in 2015, some shortcomings in the calculation of theses indexes came up, especially because it was not possible to associate the variations that occurred in their values with the effects of the Project. In order to improve the methodology and strengthen the connection of the indexes with the expected effects of the FCC Component 2, WB and CONAFOR teams asked FAO technical assistance to address this issue. In early 2016, FAO started a series of workshops and analysis with CONAFOR and Chapingo University to detect the main methodological shortcomings and propose improvement in the calculation of such indexes. At the end of this technical assistance, two scenarios were proposed: a) the SOI and FA-EDI adjusted, whose approach enabled CONAFOR to recalculate the previous values using the same variables proposed by L. Merino and A.E Martinez and the previous data of the 2011 to 2014 surveys and; b) an enhanced version of SOI and FA-EDI, which included new variables aimed to strengthen the correlation between the expected effects of the CONAFOR interventions and the index values.

[75] See: L Merino and A.E. Martinez, “A vuelo de Parajo”, 2010: Las condiciones de las comunidades con bosques templados en México

B. Adjusted Indexes

5. While CONAFOR considered the enhanced indexes valuable to evaluate the situation of the C&Es supported, it was decided that the M&E system of the FCC will use the Adjusted Versions in order to facilitate the calculation of the same indexes retrospectively. In fact, the enhanced version required variables that were not collected in the surveys carried out from 2011 to 2014.

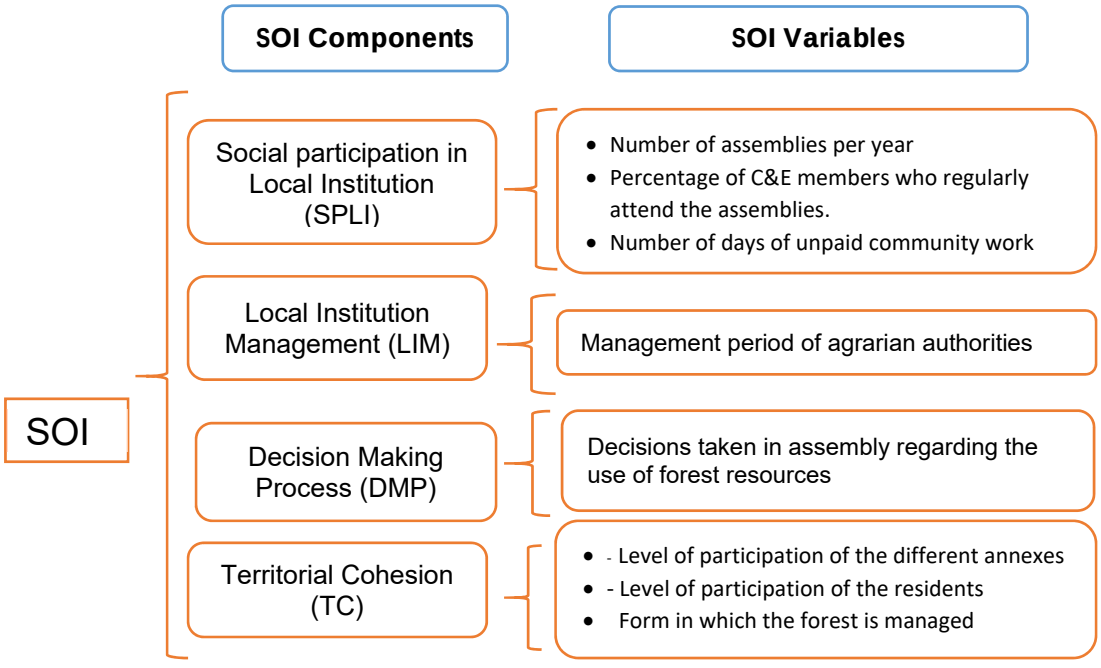
6. In the previous versions of SOI and FA-EDI, the scale of the measurement of each variable was not standardized and the minimum and maximum values of some of them did not reflect the real weight of the factors inducing the expected changes in social capital and economic strengths of the C&E, with respect to their forest management level. Moreover, one of the main issues that led to the variability of the results was caused by the fact that the numeric values calculated for each variable was summed to obtain a final figure that did not reflect a consistent score to qualify the C&E.

7. After the revision process, three major changes were proposed for the adjusted indexes: i) all the maximum and minimum values for each variable were revised and standardized; ii) the variable were re-organized in different components; iii) the weight of each variable and component were adjusted according to the CONAFOR and Chapingo University field observations and; iv) a conversation table was created to associate the numeric values to quantitative scores. Therefore, the indicators related to both indexes are no longer measured like a number, but as a percentage of C&E matching the criteria to be situated among five levels: very low, low, medium, high and very high. The first three levels are considered below the acceptable level of social or economic capacities, while the last ones (high and very high) reflect acceptable levels.

C. Structure of the Indexes

The Social Organization Index (SOI)

8. Once adjusted, the Social Organization Index includes the following components and variables:



9. For each component of the SOI a table is created, where the values and weight of the variables are established. See example below for the first component of the IOS.

SPLI= Social Participation in Local Institution Where SPLI **= (0.4)A1 + (0.5)A2 + (0.1)A3**		
Variable	Scale and score	
A1. Number of assemblies per year	• **0 Assembly/year** • **1 assembly/year** • **2 a 3 assemblies/year** • **4 assembly/year** • **5 or more assemblies**	0.00 0.25 0.50 0.75 1.00
A2. Percentage of C&E members who regularly attend the assemblies.	• **Less than 25%** • **25% - 50%** • **51% - 66%** • **67% - 90%** • **91% and more**	0.00 0.25 0.50 0.75 1.00
A3. Number of days of unpaid community works	• **No local agreement on unpaid work** • **Local agreement**	1.00 0.00

10. Once each variable and component is measured, the following formula is applied:

$$IOS = 0.25(SPLI) + 0.25(LIM) + 0.25(DMP) + 0.25(TC)$$

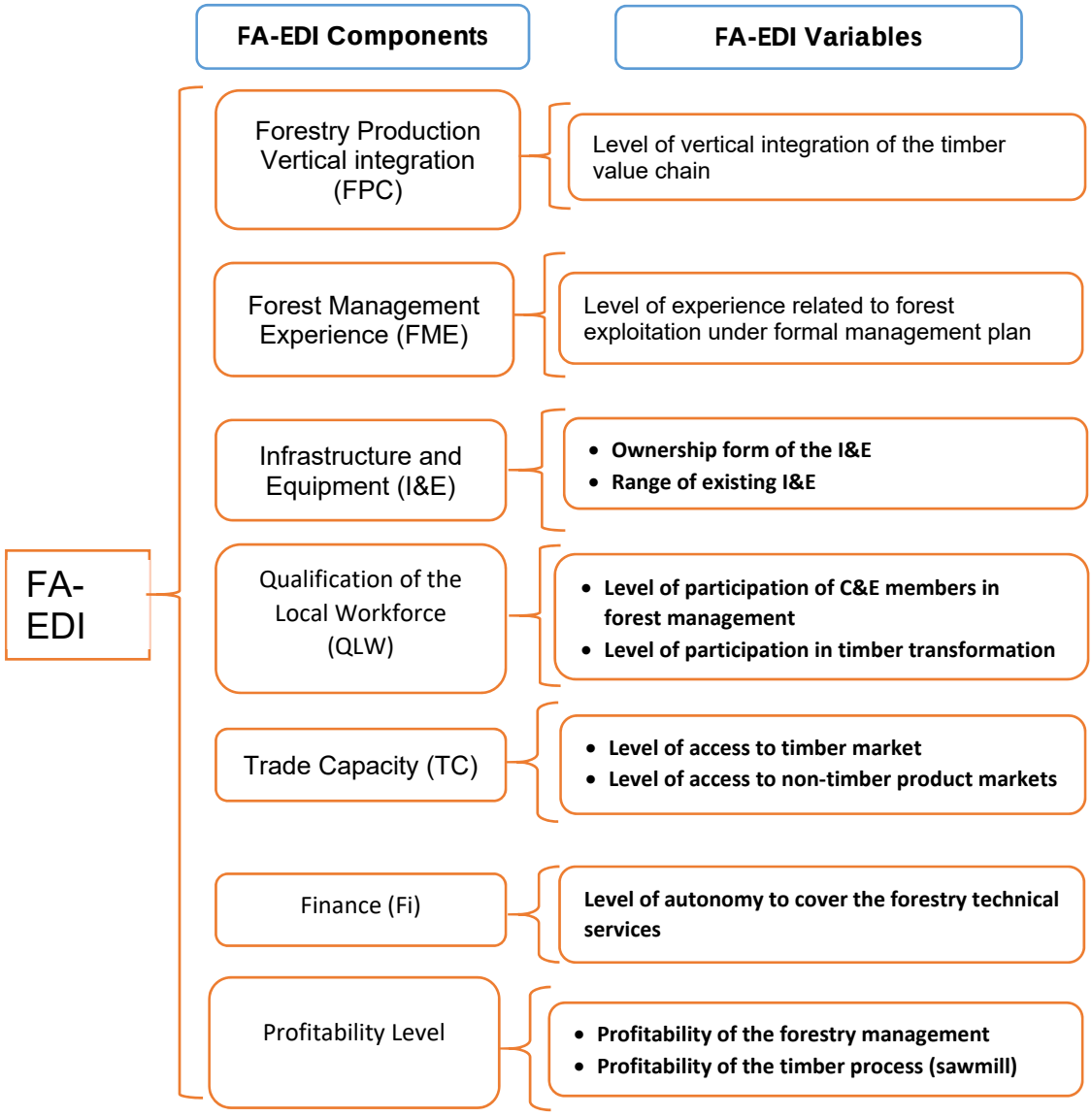
11. According to the final score and the value of each component, a conversion table is used to identify the category of social organization reached by the assessed C&Es.

Concept	Value	Level of social organization	Indicator for the FCC
The four components together reach 90%, or three of them 100%. It means that the community is managed as a unit and there is an internal social and territorial cohesion. Assemblies are attended by the majority of the members and regularly held to comply with the procedures established by the CONAFOR. The local authorities are organized under different committees that complete a three years period. The annexed smaller villages, young and women (often unofficial members of the assemblies) are involved in the decision making process.	0.91 a 1.00	Very high	Acceptable level of Social Organization
Three out of four components reach at least 90%	0.76 a 0.90	High	
Three out of four components reach at least 80%, but one is under 25% or two components are higher of 90%,	0.51 a 0.75	Medium	Level of Organization

but the qualification of the other ones is low or very low.			under the acceptable level
Two out of four components reach at least 80%, but the qualification of one of them is under 25% or two components are higher of 90%, but the qualification of the other ones is very low.	0.26 a 0.50	Low	
All the components are under 50%	Less than 0.25	Very low	

The Forest Activities Economic Development Index (FA-EDI)

12. The same methodology as the one used for SOI was developed to adjust the FA-EDI, taking into consideration the value and weigh of each variable and component. Therefore, the new structure of the FA-EDI is the following:



13. In this case, the formula used to calculate the numerical value of FA-EDI is the following:

$$FA\ EDI = 0.25(FPC) + 0.15(FME) + 0.25(I\&E) + 0.05(QLW) + 0.05(FI) + 0.10(TC) + 0.15(PL)$$

14. The FA-EDI conversion table from numerical values to the qualitative scores is the following:

Concept	Value	Level of economic capacity	Indicator for the FCC
The community undertakes diversified forest products transformation, owns all the needed I&E, trades different timber and non-timber products and runs a profitable forestry business	0.86 to 1.0	Very high	Acceptable level of Social Organization
The community obtains incomes mainly by selling timber products, owns at least 80% of the needed I&E, has got a regular experience in implementing forest management plans and run a profitable business.	0.70 - 0.85	High	
The community obtains incomes mainly from the timber products, owns at least 60 % of the needed I&E, has got a limited experience in implementing forest management plans, but the incomes do not cover the entire costs of the business	0.50 - 0.69	Medium	Level of Organization under the acceptable level
The community only sells standing wood, does not own half of the needed I&E, has got a very limited experience in implementing forest management plans and the incomes do not cover the cost of the forest exploitation.	0.25 - 0.49	Low	
The community does not carry out a planned forest management or only rents its forest area to a firm, does not own any I&E and the members are not involved in the economic activities related to the forest.	Less than 0.25	Very low	

D. Collecting data in the field

15. Due to budget cuts, from 2016, CONAFOR decided to carry out the national beneficiary survey every two years rather than annually as it was done from 2011 to 2014. However the structure of the C&E sample has remained the same. Around 370 C&Es are selected according to the methodology of expanded panel sample, where the major part of the C&Es remain the same as the ones surveyed in the baseline, however some additional communities are included every year, once they benefitted from a CONAFOR support. The sample is also stratified according to the share of the C&E participation among the different programs supported by the Component 2 of the FCC.

16. A firm or a University is recruited to carry out the survey in the C&E sample, where local authorities and some of their members are interviewed. The survey is not only focused on providing the SOI and FA-EDI I values, but also on the collection of information regarding the progress of the field activities financed by the FCC and CONAFOR, as well as the beneficiary satisfaction related to the different financial and non-financial services provided by the programs.

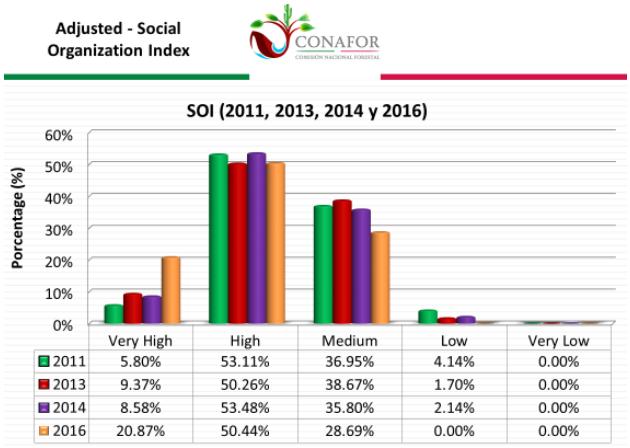
17. At the end of the survey, the data collected in the field are processed to obtain the indexes and a public report is prepared and published in the CONAFOR website.

E. Evolution of the Index values

Once the methodology of both indexes adjusted, the value of the indexes, which are reported as intermediate indicators for the Component 2 of FCC, have been re-calculated from 2011 to 2014. However, the last beneficiary survey carried out in 2016 allowed the direct implementation of the adjusted SOI and FA-EDI. In order to maintain the same evaluation period throughout the project cycle, it was decided to report the result of these indicators every two years.

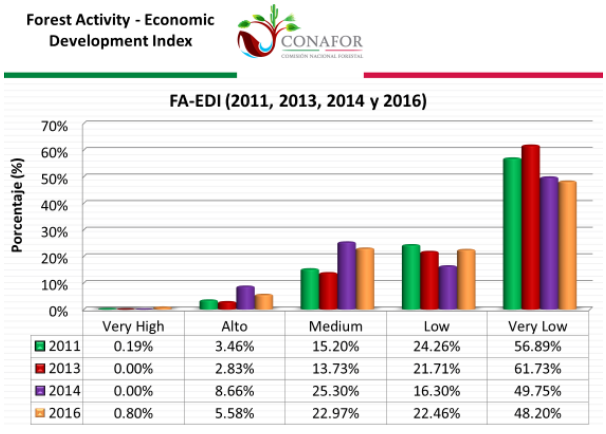
The figures copied below show the evolution of SOI and FA-EDI from 2011 to 2016, taking into consideration the five categories of social and economic capacities.

Figure A7-1. Social Organization Index



	Very High	High	Medium	Low	Very Low
2011	5.80%	53.11%	36.95%	4.14%	0.00%
2013	9.37%	50.26%	38.67%	1.70%	0.00%
2014	8.58%	53.48%	35.80%	2.14%	0.00%
2016	20.87%	50.44%	28.69%	0.00%	0.00%

Figure A7-2. Economic Development Index



	Very High	Alto	Medium	Low	Very Low
2011	0.19%	3.46%	15.20%	24.26%	56.89%
2013	0.00%	2.83%	13.73%	21.71%	61.73%
2014	0.00%	8.66%	25.30%	16.30%	49.75%
2016	0.80%	5.58%	22.97%	22.46%	48.20%

The figures copied below show the evolution of SOI and FA-EDI from 2011 to 2016, taking into consideration the category established for the indicators' measurement under Component 2 of the FCCP.

Figure A7-3. Social Organization Index's Evolution

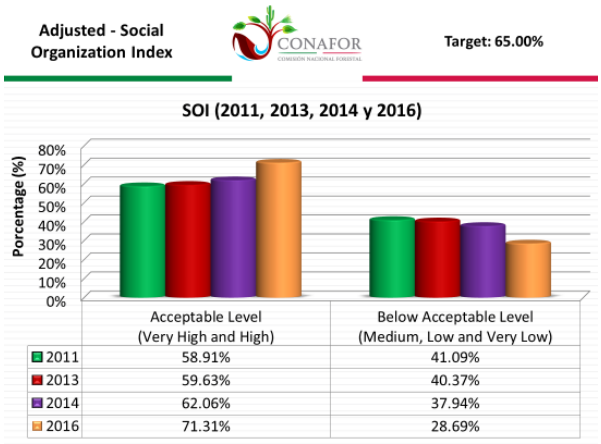


Figure A7-4. Economic Development Index's Evolution