Report No: ICR00002161

IMPLEMENTATION COMPLETION AND RESULTS REPORT

ON A

LOAN IN THE AMOUNT OF US\$45.0 MILLION

AND A

GRANT FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$15.0 MILLION

TO THE

UNITED MEXICAN STATES

FOR AN

ENVIRONMENTAL SERVICES PROJECT

December 19, 2011

Sustainable Development Department Colombia and Mexico Country Management Unit Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 2011)

Currency Unit = Mexican Peso (MXP) MXP 1.00 = US\$0.0739 US\$1.00 = MXP 13.5365

FISCAL YEAR January 1 - December 31

ABBREVIATIONS AND ACRONYMS

APROMSA	Promising areas for promoting environmental services (pilot sites)
CARSA	Areas promisorias para la promocion de los servicios ambientales Program to Develon Environmental Services Markets for Carbon Canture and Biodiversity and to
CADSA	Establish and Improve Agroforestry Systems
	Programa para Desarrollar el Mercado de Servicios Ambientales por Cantura de Carbono y los
	Derivados de la Biodiversidad y para Fomentar el Establecimiento y Mejoramiento de Sistemas
	Agroforestales
CBD	Convention on Biological Diversity
022	Convenio de Biodiversidad
CDM	Clean Development Mechanism
CNA	National Water Commission
	Comisión Nacional de Agua
COINBIO	Indigenous and Biodiversity Conservation Project
	Proyecto de Conservación de la Biodiversidad en Comunidades Indígenas de los Estados de Guerrero,
	Michoacán y Oaxaca
COLPOS	Postgraduates College
	Colegio de Postgraduados
CONABIO	National Commission for Biodiversity Knowledge and Use
	Comisión Nacional para el Conocimiento y Uso de la Biodiversidad
CONACYT	National Committee for Science and Technology
	Consejo Nacional de Ciencia y Tecnología
CONAF	National Forestry Council
	Consejo Nacional Forestal
CONAFOR	National Foresty Commission
	Comisión Nacional Forestal
CONANP	National Commission for Natural Protected Areas
	Comisión Nacional de Areas Naturales Protegidas
CPS	Country Partnership Strategy
	Estrategia de Colaboración
EA	Environmental Assessment
	Análisis Ambiental
EnvSAL I & II	Environmental Structural Adjustment Loans
	Préstamos de Ajuste Estructural Ambiental
EOP	End of Project
ES	Environmental Services
FAO	Food and Agricultural Organization
FFM	Mexican Forestry Fund
	Fondo Forestal Mexicano
FPB	Biodiversity Endowment Fund
	Fondo Patrimonial de la Biodiversidad
GEF	Global Environmental Facility
IMTA	Mexican Water Technology Institute
	Instituto Mexicano de Tecnología de Agua
INE	National Ecology Institute
	Instituto Nacional de Ecología

IPDP	Indigenous Peoples Development Plan
COM	Fina de Talebios Indigenais
GOM	
LED	Gobierno de Mexico
LFD	rederai Righis Law
MDC	Ley Federal de Derechos
MBC	Mesoamerican Biological Corridor
	Corredor Biológico Mesoamericano
NAFIN	National Financing Agency (GOM's development bank)
NGO	Nacional Financiera S.N.C.
NGO	Nongovernmental Organization
	Organismo No Gubernamental
NPA	National Protected Area
	Area Natural Protegida
PES	Payment for Environmental Services
	Pago por Servicios Ambientales
PHRD	Policy and Human Resources Development Grant
POA	Annual Operating Plan
	Plan Operativo Anual
PROCYMAF	Community Forestry Management and Conservation Program in Mexico, partially funded with IBRD
I & II	resources, Loan 4137-ME
	Programa de Desarrollo Forestal Comunitario I y II (Proyecto de Conservación y Manejo Sustentable de
	Recursos Forestales en México, financiado parcialmente con recursos del Banco Mundial, Préstamo
	4137-ME)
PRODEFOR	Forest Development Program
	Programa para el Desarrollo Forestal
PRODEPLAN	Forest Plantation Program
	Programa de Plantaciones Forestales
PROCOREF	Program for Forest Conservation and Restoration
	Programa de Conservación y Restauración Forestal
PROFAS	Reinforcement Program for Forest Self-Management
	Programa de Fortalecimiento a la Autogestión de los Silvicultores
PSA	Program of Payment for Environmental Services (established under the Project)
	Programa de Pago por Servícios Ambientales Program
PSAH	Payments for Hydrological Environmental Services Program
	Programa de Pago por Servícios Ambientales Hidrológicos
PSTvP	Register of Technical and Professional Services
5	Padrón de Servícios Técnicos y Profesionales
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food
	Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación
SERMANAT	Ministry of Environment and Natural Resources
~	Secretaría de Medio Ambiente y Recursos Naturales
SHCP	Ministry of Finance and Public Credit
bilei	Secretaría de Hacienda y Crédito Público
SINAP	National System of Natural Protected Areas
S. 11 11	Sistema Nacional de Areas Naturales Protegidas
PST	Technical Service Provider
1.01	Proveedor de Servícios Técnicos
	Trovelaor at Dervicios Tecnicos



MEXICO Environmental Services Project

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MAP IBRD 33447

A. Basic Informat	ion				
Country:	Mexico	Project Name:	Environmental Services Project		
Project ID:	P087038,P089171	L/C/TF Number(s):	IBRD-73750,TF- 55086,TF-56321		
ICR Date:	12/20/2011	ICR Type:	Core ICR		
Lending Instrument:	SIL,SIL	Borrower:	SEC. HACIENDA Y CREDITO PUBLICO (SHCP)		
Original Total Commitment:	USD 45.00M,USD 15.35M	Disbursed Amount:	USD 45.00M,USD 15.09M		
Environmental Category: B,B Focal Area: B					
Implementing Agenc	ies:				
Comision Nacional F	orestal (CONAFOR)				
Cofinanciers and Otl	ner External Partners:				

B. Key Dates

Environmental	Services	Project -	P087038
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Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	08/02/2004	Effectiveness:	10/31/2006	10/31/2006
Appraisal:	12/12/2005	Restructuring(s):		12/09/2010
Approval:	03/29/2006	Mid-term Review:		
		Closing:	06/30/2011	06/30/2011

Mexico Environmental Services Project - P089171						
Process	Date	Process	Original Date	Revised / Actual Date(s)		
Concept Review:	08/02/2004	Effectiveness:	11/09/2006	10/31/2006		
Appraisal:	12/12/2005	Restructuring(s):		12/09/2010		
Approval:	03/29/2006	Mid-term Review:	11/17/2009	02/15/2010		
		Closing:	06/30/2011	06/30/2011		

C. Ratings Summary			
C.1 Performance Rating by ICR			
Outcomes	Satisfactory		
GEO Outcomes	Satisfactory		
Risk to Development Outcome Low or Negligible			

Risk to GEO Outcome	Low or Negligible
Bank Performance	Satisfactory
Borrower Performance	Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)				
Bank	Ratings	Borrower	Ratings	
Quality at Entry	Satisfactory	Government:	Satisfactory	
Quality of Supervision:	Satisfactory	Implementing Agency/Agencies:	Satisfactory	
Overall Bank Performance	Satisfactory	Overall Borrower Performance	Satisfactory	

C.3 Quality at Entry and Implementation Performance Indicators					
Environmental Services	Project - P087038				
Implementation Performance	Implementation PerformanceIndicatorsQAG Assessments (if any)Rating:				
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA)	None		
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA)	None		
DO rating before Closing/Inactive status	Satisfactory				

Mexico Environmental Services Project - P089171					
Implementation Performance	Indicators	QAG Assessments (if any)	Rating:		
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA)	None		
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA)	None		
GEO rating before Closing/Inactive Status	Satisfactory				

D. Sector and Theme Codes				
Environmental Services Project - P087038				
	Original	Actual		
Sector Code (as % of total Bank financing)				
General agriculture, fishing and forestry sector	100	100		

Theme Code (as % of total Bank financing)		
Biodiversity	29	29
Climate change	14	14
Environmental policies and institutions	29	29
Land administration and management	14	14
Other environment and natural resources management	14	14

Mexico Environmental Services Project - P089171

	Original	Actual
Sector Code (as % of total Bank financing)		
General agriculture, fishing and forestry sector	100	100
Theme Code (as % of total Bank financing)		
Biodiversity	29	29
Climate change	14	14
Environmental policies and institutions	29	29
Land administration and management	14	14
Other environment and natural resources management	14	14

E. Bank Staff					
Environmental Services	s Project - P087038				
Positions At ICR At Approval					
Vice President:	Pamela Cox	Pamela Cox			
Country Director:	Gloria M. Grandolini	Isabel M. Guerrero			
Sector Manager:	Karin Erika Kemper	Abel Mejia			
Project Team Leader:	Adriana Moreira	Mark A. Austin			
ICR Team Leader:	Adriana Moreira				
ICR Primary Author:	Adriana Moreira				
	Suzana Nagele de Campos Abbott				
	Stefano P. Pagiola				

Mexico Environmental Services Project - P089171				
Positions	At ICR	At Approval		
Vice President:	Pamela Cox	Pamela Cox		
Country Director:	Gloria M. Grandolini	Isabel M. Guerrero		
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Project Team Leader:	Adriana Moreira	Mark A. Austin		
ICR Team Leader:	Adriana Moreira			
ICR Primary Author:	Adriana Moreira			
	Suzana Nagele de Campos Abbott			
	Stefano P. Pagiola			

F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The project development objective is to enhance the provision of environmental services of national and global significance and secure their long-term sustainability. This would be done by strengthening and expanding the national PSAH and CABSA programs and supporting the establishment of local payments for environmental services (PES) mechanisms in selected pilot areas.

The objective will be achieved through the following key outcomes and outputs: (i) strengthening the capacity of CONAFOR, community associations, and NGOs to increase flexibility and improve efficiency of existing service provision to support long-term development of the PSAH program in Mexico; (ii) establishing and securing sustainable long-term financing mechanisms; (iii) establishing legal, institutional, and financial arrangements to pilot market-based mechanisms for payment for environmental services; (iv) documenting links between land use changes and water services improvements and biodiversity conservation; and (v) defining good practices to replicate, scale up, and sustain market-based PES programs.

Revised Project Development Objectives (as approved by original approving authority)

Global Environment Objectives (from Project Appraisal Document)

The global environment objective of the project is to enhance and protect biological diversity and preserve globally significant forest and mountain ecosystems.

This objective will be achieved through the following key outcomes and outputs: (i) improving the targeting of the existing PSAH program; (ii) piloting a market-based system to contract environmental services; and (iii) establishing an endowment fund for biodiversity conservation to provide long-term financing for payment for environmental services. The project will ensure that only sites with globally significant biodiversity will receive GEF funds under the national or local programs in the project area. In addition,

these sites (see Annex 17) are recognized as part of the national protected areas system. Furthermore, all land management systems with PES support under the project (from any funding source) will be biodiversity-friendly (see Annex 10 for details).

Revised Global Environment Objectives (as approved by original approving authority)

		Original Target	Formally	Actual Value	
Indicator	Degeline Velue	Values (from	Revised	Achieved at	
	basenne value	approval	Target	Completion or	
		documents)	Values	Target Years	
Indicator 1 :	At least 500,000 additiona environmental services in sequestration benefits from	l ha under environr hydrological, bio d n existing funding s	nental service c iversity conserv sources.	ontracts that provide ration and/or carbon	
Value (quantitative or Qualitative)	538,106.86 ha	538,106.86 ha 500,000 ha additional n/a 2			
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	500%. At the time of App contracts. The PAD menti not included in the baselin in the baseline.	raisal, there were 53 oned that existing c le. For purposes of c	38,106.86 ha un ontracts from e comparison, we	der existing existing funds were have included these	
Indicator 2 :	At least 100,000 additional ha under environmental service contracts that provide environmental services in biodiversity cons ervation and/or water services from the new funding mechanisms being established by the Project				
Value (quantitative or Qualitative)	None	100,000 ha	n/a	57,357 ha	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments	57%. An additional 22,00	0 ha will be contrac	ted under the F	ondo Patrimonial de	
(incl. %	la Biodiversidad (FPB) an	d 35,000 ha with Fo	o ndos Concurre	entes in 2012	
achievement)	increasing achievement to	114%.			
Indicator 3 :	Stand-alone local PES me (buying and generating) en	chanisms designed nvironmental servic	for at least two es in priority a	sites for contracting reas.	
Value (quantitative or Qualitative)	None	at least two sites	n/a	4 sites	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	200%. Four mechanisms are being supported and currently working: Cuenca del Rio Pixquiac, Veracruz; Fabricas de Agua Centro de Sinaloa; SAS_Veracruz and Cuenca del Alto Nazas Irritila				
Indicator 4 :	At least 15 proposals for new carbon sequestration projects are submitted to potential buyers.				
Value (quantitative or Qualitative)	9 existing projects.	15 proposals	n/a	53 proposals	

(a) PDO Indicator(s)

Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011		
Comments (incl. % achievement)	350%. 53 proposals have been submitted to PRONATURA for commercialization; a project in Oaxaca has managed to commercialize 76,821 tons of Carbon in a surface of 2.973 ha from 2008 to 2011.					
Indicator 5 :	Institutional arrangements learning established, prope market-based PES program	for facilitating PES erly staffed, and reso n.	mechanisms n ourc ed to replie	nanagement and cate and scale up		
Value (quantitative or Qualitative)	CONAFOR has the capacity to manage current one- size-fits-all program (PSAH) and one small multiple-objective program (CABSA)	none	n/a	CONAFOR now has the capacity to manage a nation wide program, including 21 sites.		
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011		
Comments (incl. % achievement) Indicator 6 :	 100%. CONAFOR manages a program three times larger than the initial one with corresponding institutional arrangements to su pport future growth. But staffing remains a constraint. CONAFOR and INE use state of the art techniques and procedures to monitor data on implementation and impacts on both the nati onal PES Program and local 					
Value (quantitative or Qualitative)	INE has conducted reviews of national and international PES and watershed management programs and has developed compendium of lessons learned; State- of-the-art monitoring limited to forest coverEffective system in place to allow assessment of PES strategy and outcomes as detailed in the PADCompliance monitoring is is in place but impact monitoring is still in process.					
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011		
Comments (incl. % achievement)	Partially achieved. Collaborative work with civil and academic groups in pilot areas is ongoing to monitor impact; other ong oing activities include research to establish baselines and indicators for detailed hydrological monitoring systems.					

(b) GEO Indicator(s)

Indicator Baseline Value		Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years	
Indicator 1 :	At least 200,000 ha of forests and other natural ecosystems of global biodiversity significance under effective conservation (protection and sustainable management) by landowners before Project completion				
Value (quantitative or Qualitative)	30,000 ha	at least 200,000 ha	n/a	353,340 ha	
Date achieved	02/15/2011	06/30/2011	06/30/2011	06/30/2011	

Comments (incl. % achievement)	176%. The program increased the area under protection 10 fold from the original baseline.				
Indicator 2 :	200 PES contracts to cons globally significant biodiv	erve forest or other versity before Project	natural ecosystered completion	ems in areas of	
Value (quantitative or Qualitative)	923 service contracts under existing funding mechanisms aimed at forest and other ecosystem conservation.	200 additional PES contratcts.	n/a	2,803 additional contracts	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	1250%. The number of ad	lditional contracts w	vas underestima	ted at appraisal.	
Indicator 3 :	Effective biodiversity con cover and indicator specie	servation in the Pro es of conservation i	ject sites measu nterest.	red by vegetation	
Value (quantitative or Qualitative)	none	Maintain or increase the area of natural vegetation of conservation interest; Maintain or increase the population of indicato r species	n/a	Tracking tools applied in collaboration with CONANP	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	Partially achieved. The M monitoring of biodivesity	&E process establis indicators started ir	shement was del n 2010.	ayed and	
Indicator 4 :	Improved water services in pilot watersheds measured by indicators appropriate to local uses, such as seasonal mean and peak flows, reduction of sediment production and transport, biochemical oxygen demand (BOD) and total suspended solids.				
Value (quantitative or Qualitative)	none	not defined	n/a	partially achieved	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	Collaborative work with civil and academic groups in six APROMASAS to develop adequate indicators. Other ongoing work includes research work to establish baseline and indicators to design a hydrological monitoring system.				

(c) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years		
Indicator 1 :	Financing mechanisms based on local demand are in place in at least six sites					

Value (quantitative or Qualitative)	e titative or 0 sites 6 sites		n/a	21 sites	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	350%. Financing mechani Fondo Concurrentes progr	sms are in place bas am in 21 sites	sed on local der	nand through the	
Indicator 2 :	An endowment fund for b provide long-term funding	iodiversity conserva for biodiversity of	ation has been e global significa	stablished to	
Value (quantitative or Qualitative)	No fund in existence	Fund established by year 3	n/a	Fund established in year 1	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	100%. Exceeded the original target.okThe Fund was established on 10/16/2008 and has been capitalized in the amoun of US\$ 21. 5 million				
Indicator 3 :	The Mexican Forestry Fund (FFM) will continue to receive at least US\$30 million per year				
Value (quantitative or Qualitative)	US\$ 30 million per year	US\$ 30 million per year	n/a	US\$ 100 million per year	
Date achieved	02/15/2006	06/30/2011	06/30/2011	06/30/2011	
Comments (incl. % achievement)	330%. FFM has received over US\$100 million per year since 2007. Participation of ejidos in pilot sites increased by 50% over the national average.				

-	-						
No.	Date ISR Archived	DO	GEO	IP	Act Disburs (USD n	Actual Disbursements (USD millions)	
					Project 1	Project 2	
1	05/30/2006	S	S	S	0.00	0.07	
2	09/10/2006	S	S	S	0.00	0.09	
3	02/13/2007	S	S	S	4.00	0.09	
4	08/15/2007	S	S	S	4.00	0.09	
5	10/22/2007	S	S	S	4.00	0.09	
6	06/12/2008	S	S	S	12.66	1.89	
7	12/12/2008	S	S	S	13.90	1.89	
8	06/16/2009	S	S	S	27.18	7.62	
9	12/19/2009	S	S	S	27.35	7.62	
10	06/20/2010	S	S	S	34.77	8.28	
11	02/23/2011	S	S	S	41.83	10.76	
12	08/02/2011	S	S	S	45.00	14.53	

G. Ratings of Project Performance in ISRs

H. Restructuring (if any)

Restructuring	Board A	ard Approved		ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions		Reason for Restructuring & Key
Date(s)	PDO Change	GEO Change	DO	GEO	IP	Project1	Project 2	Changes Made
12/09/2010			S		S	34.77		Reallocation of loan proceeds.
12/09/2010				S	S		10.76	Reallocation of grant proceeds.

I. Disbursement Profile





P089171



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. The Government of Mexico's (GoM) National Development Plan (NDP) at the time of Appraisal included a substantial agenda for furthering progress in previously enacted reforms that had led to a major political and economic transformation in the country. Specifically, the Plan included very important goals in poverty reduction, improved competitiveness, environmental management, and institutional change.

2. Water quality/supply and deforestation were two important environmental challenges Mexico faced, and the country was experiencing rapid environmental degradation, including some of the Latin America region's most extensive deforestation. While the annual deforested area was roughly only one-quarter that of Brazil, Mexico's annual rate of deforestation was four times greater (in 2005-2010) than in Brazil, and deforestation was highest in tropical forests, including areas of high biodiversity value. Environmental degradation was aggravating the already severe water quality, reliability, and contamination problems, threatening current and future economic activities and the welfare of Mexico's people, and leading to loss of globally important biodiversity.

3. Water consumption patterns were considered unsustainable, with over half of all groundwater used coming from slightly over one quarter of Mexico's 653 aquifers; over half of groundwater use came from overexploited aquifers. Although water scarcity was not considered directly related to deforestation, this factor had adversely affected water quality and resulted in the sedimentation of reservoirs. Forest conservation was expected to help ameliorate water scarcity pressures by improving the quality of available water.

4. Mexico is one of the world's countries with highest biodiversity—bird, reptilian, mammal, amphibian, and plant diversity alike—but land use change was seen as rapidly eroding its extraordinary biological wealth. Forests are located almost entirely in common property lands—*ejidos*, the owners of which were among the poorest in the country; indigenous people had an important presence in forested areas. This was seen as having important implications, since poverty was one of the driving forces in deforestation, and poor households were highly dependent on forest resources. Degradation would hinder their ability to sustain their livelihoods.

5. The GoM had taken several important actions to address its environmental challenges. It had created the National System of Protected Natural Areas (SINAP) to support its richest habitats and biological diversity, and supported by the GEF and the Bank, and had created an endowment fund to provide long-term financial support to SINAP. The GoM had committed to a —aro deforestation" target, and created the National Forest Commission (CONAFOR) in 2001 to support sustainable production and conservation of forest resources based on its Strategic Forestry Program for 2000-2025 that laid out specific priorities, goals, and strategies for community forestry, commercial forestry, soil conservation, forest management, and reforestation. This Program was part of an overarching approach to national development that included also sector strategies for water, rural development and biodiversity. Subsequently, in 2003, the GoM introduced a fiscal instrument (the water fee), the Payments for Hydrological Environmental Services Program (PSAH), and the Program to Develop Environmental Services Markets for Carbon Capture and Biodiversity and to Establish and Improve Agro-forestry Systems (CABSA).

6. PSAH was designed to complement other initiatives by providing economic incentives to avoid deforestation in areas where water problems were severe, but where in the short- or medium-term commercial forestry could not cover the opportunity cost of switching to agriculture or cattle ranching. Under the program, direct payments are made to landowners with forests in good state of conservation for watershed conservation, management, and restoration aimed at preserving temperate and tropical forestlands associated with the supply of water to communities. PSAH was funded through a portion of the water fees collected under the Federal Rights Law (LFD). The program expanded rapidly, and at the time of Appraisal, there were 879 contracts covering about 480,000 ha under the PSAH. Still, the program faced challenges: (a) the majority of the contracted area was outside the priority conservation areas; (b) less than 20 percent of the areas being enrolled were considered to be at high or very high risk of deforestation; (c) most contracts had gone to better organized, more developed communities and *ejidos* and to private owners; (d) there was a five-year limit on payments to any one participant that risked conservation beyond that period; and (e) there was a lack of training and capacity building (on both the supply and demand sides) to develop local markets.

7. As a complement to PSAH, CABSA started operations in 2004 supporting reforestation activities and land use changes, linking them to national and international markets/financing for carbon capture and biodiversity. By the time of Appraisal, CABSA had 51 contracts covering 68,535 ha, although only 20,000 ha were receiving direct payments while the remainder was covered by proposals that had been accepted for further development. The program's initial success reflected its strong potential, but several challenges had been identified: (a) sustainability was limited by the five-year payments (similar to PSAH); (b) international carbon and biodiversity markets were new and lacked well-established prices and rules; (c) transaction costs might be high; and (d) there was inadequate information on how communities would benefit from CABSA.

8. Mexico also had other, smaller experiences with market-driven payments for environmental services (PES), involving water supply and hydrological services, biodiversity, and carbon capture that included a range of stakeholders and participants, from local communities and civil society organizations to the federal government and international agencies. All of these experiences affected local watershed and ecosystem management in some way and usually involved more than one type of environmental service. Most of these were then under development or negotiation, although several were already under implementation with promising results.

9. The GoM sought to address identified weaknesses in its existing PES programs by: (a) ensuring the long-term sustainability of the PES program by developing new, sustainable long-term financing mechanisms based on payments from service users; (b) increasing the program's efficiency and cost-effectiveness by focusing on the areas of greatest risk of deforestation and on areas with water quality or regulation problems; (c) improving its contribution to poverty reduction; and (d) increasing its contribution to the conservation of globally important biodiversity by focusing it on critical ecosystems. The Project was designed to assist the Government in addressing these challenges.

10. The rationale for the Bank's and GEF involvement with the Project was strong. At the time of Appraisal, both the Bank and GEF had provided extensive support towards increasing Mexico's environmental sustainability, through a successful program of assistance that spanned several years. The Bank had developed knowledge and experience in the design, implementation and support of PES programs in other developing countries, and had been conducting research on PES and providing the results to practitioners through capacity-building efforts. With this experience—including four Bank-financed projects using PES that were under implementation with GEF co-financing at the time and others under preparation—no institution had the depth of experience with PES programs that the Bank had at the time.

11. GEF's support was warranted as the Project would: (a) help conserve globally significant biodiversity, including critically endangered endemic species; (b) enhance the Mexican portion of the Mesoamerican Biological Corridor (MBC); (c) pilot PES as a sustainable, long-term

conservation instrument that could be scaled up and replicated in Mexico and other countries; (d) research links between land use change and environmental services; and (e) increase carbon sequestration and knowledge about bio-carbon sinks. It was considered that without the GEF increment, environmental services payments might not provide sufficient incentive to adopt land uses that would yield global benefits in addition to local and national benefits.

1.2 Original Project Development Objectives (PDO) and Key Indicators (as approved)

12. The Project Development Objective was to enhance the provision of environmental services of national and global significance and secure their long-term sustainability. This was to be done by strengthening and expanding the national PSAH and CABSA programs and supporting the establishment of local payments for environmental services (PES) mechanisms in eight selected pilot areas. The Global Development Objective (GDO) of the Project was to enhance and protect biological diversity and preserve globally significant forest and mountain ecosystems.

- 13. Key Performance Indicators related to the PDO and GDO included:
- At least 600,000 additional ha under environmental service contracts of which: (a) financed from existing sources, at least 500,000 additional ha under environmental services contracts that contribute to increased hydrological services, biodiversity conservation, and carbon sequestration; and (b) financed from new financing sources established under the Project, 100,000 additional ha under environmental service contracts aimed at increasing hydrological services, biodiversity conservation and carbon sequestration;
- Stand-alone local PES mechanisms designed for at least two pilot sites for contracting (buying and generating) environmental services in priority areas, including functioning Monitoring and Evaluation (M&E) systems by project completion;
- At least 15 proposals for carbon sequestration projects submitted to potential buyers;
- Institutional arrangements for facilitating management and learning of PES mechanisms established, properly staffed, and resourced to continue beyond project completion to replicate and scale up market-based PES programs;
- CONAFOR and INE use: (a) state-of-the-art techniques and procedure to monitor data on implementation and impacts of both the national PES program and local pilot PES mechanisms (such as vegetation cover, land use practices, ecosystem and habitat conservation, indicator species of conservation interest, water discharge, sediment production and transport, biochemical oxygen demand, and total suspended solids); and (b) information to evaluate and draw conclusions on (i) the links between land use changes and environmental services, (ii) buyers' responses, (iii) community acceptance of the PES mechanism, and (iv) sustainability of the mechanism, as measured by the ratio of payments from local buyers of environmental services and CONAFOR's operational costs.
- The new areas enrolled include 200,000 additional ha of forests and other natural ecosystems of global biodiversity significance placed under effective conservation by landowners before project completion in the buffer zones of protected areas and the corridors that connect them, including the Mexican portion of the MBC.

1.3 Revised PDO and Key Indicators, and reasons/justification

14. The Project's Development Objectives were not revised.

1.4 Main Beneficiaries

15. The Project's main beneficiaries, as identified in the PAD, were expected to include: (a) environmental service users that would help finance the PES programs, and (b) environmental service providers, including both indigenous and non-indigenous people, who would be

compensated for maintaining or adopting desirable land uses and practices. The environmental service users were expected to include users of water services (municipalities, utilities, irrigators, individual consumers, biodiversity, tourism companies, national and international conservation organizations), and carbon sequestration (Clean Development Mechanisms and the international community). The environmental service providers, who would be the recipients of the PES payments and the capacity building assistance, were expected to include owners of forested land in targeted watersheds among eight pilot sites¹, most of which is commonly owned land held in the form of *ejidos* and *comunidades agrarias*, both indigenous and non-indigenous. These eight pilot areas also tended to correspond to some of the poorest communities in the country, with some of the highest marginalization indices. The eight pilot sites were all within reasonable proximity of urban centers, with at least 50,000 inhabitants and a presumed demand for environmental services. In addition, the eight sites had: (a) important watersheds upstream of areas where the supply and quality of fresh water was a significant concern; (b) globally significant biodiversity in need of improved conservation; (c) natural vegetation important for carbon storage; (d) significant risks of deforestation and other loss and degradation of natural habitats, and (e) extensive *ejido* and *comunidades* land holdings potentially suitable for PES contracts, especially since ejidos and comunidades with large tracts of forest were considered as more likely than non-forested land holdings to have significant majorities of indigenous people. Only sites with globally significant biodiversity, as measured by corresponding to two of four categories of high conservation priority (National Protected Areas, Priority Terrestrial Ecoregions, Important Bird Areas, and Ramsar Wetlands of International Importance) were to receive GEF funds under the national or local programs in the project area.

16. Project beneficiaries were also expected to include CONAFOR and other national institutions, market intermediaries, community associations, and NGOs, through a strong program to develop their capacity for implementing and monitoring PES programs. CONAFOR especially was to benefit from a strong program of technical strengthening that would allow it to sustain, replicate and expand the PES programs in the future. Eligibility criteria introduced in 2007 limited contracts program-wide to *ejidos*, communities and small individual landholders (with less than 200 ha).

1.5 Original Components

17. The Project aimed to substantially enhance the provision of environmental services and secure their long-term sustainability by: (a) developing new, sustainable financing mechanisms for environmental services, which could be channeled either through existing PES programs or through new, stand-alone local PES mechanisms; (b) strengthening and improving the efficiency of existing PES programs (PSAH and CABSA); (c) stimulating the development of stand-alone local PES programs; and (d) assisting local communities in service provision. The Project comprised five inter-related components, described below²:

¹ The eight pilot sites, the *áreas promissorias* (APROMSAs) were: five centered on areas that supply water to large urban centers (Coatepec, Colima, Valle de Bravo, Monterrey, and Saltillo); two centered on coastal tourism centers (Cancún and Huatulco); and one on several watersheds with multiple users (El Cielo-Ciudad Victoria).

 $^{^2}$ The Components were inter-related as the payments for water, biodiversity and carbon service contracts under Component 4 were to be made on the basis of the financing mechanisms developed under Component 1, through the delivery mechanisms developed and strengthened under Component 2, to the service providers supported through Component 3. While the bulk of financing was for actual payments to service providers under Component 4, most of the activities that would make those payments through arranging, structuring and monitoring the payments were supported under Components 1 through 3 of the Project.

Component 1: Developing Sustainable Financing Mechanisms (\$14.47 million, of which \$7.68 million from GEF)

18. The objective of this component was to develop new, sustainable financing sources based on payments from service users, which could then be channeled through either the PSAH or stand-alone PES mechanisms, as appropriate. Activities under this component would help develop financial mechanisms based on the main types of environmental services: water quality and regulation, biodiversity conservation, and carbon sequestration. These financial mechanisms would be piloted in eight promising sites identified by CONAFOR. Some of these sites would focus on a single financing mechanism while others could include multiple financing mechanisms, depending on the services being generated and the interests for users.

19. Also, a biodiversity endowment fund would be established and capitalized to provide long-term financing for PES that would conserve globally significant biodiversity in the buffer zones of protected areas and the corridors that connected them in cases where other sources of funding were insufficient. The capitalization of the fund was to occur upon completion of preparatory work for its establishment, and upon approval of the funding mechanism, i.e., a separate fund or a sub-account of the forestry fund managed by CONAFOR, the appointment of the financial agent to manage the fund, and the adoption of operating rules of the fund. GEF contributions to the fund were to be matched on at least a one-to-one basis by other sources.

Component 2: Developing and Strengthening PES Delivery Mechanisms (\$3.51 million, of which \$1.30 million from GEF)

20. The objectives of this component were to strengthen the existing PSAH and CABSA delivery mechanisms and to support the development of new, stand-alone delivery mechanisms for local PES markets that would act as intermediaries between service users and service providers in carrying out functions such as determining how best to generate the services that users are paying for, identifying critical areas and land use practices to be targeted, negotiating with and contracting service providers, monitoring compliance, making payments, and monitoring impacts.

Component 3: Supporting Environmental Service Providers (\$9.56 million, of which \$3.70 million from GEF)

21. The objective of this component was to address and remove obstacles that prevented communities from participating in either national PES programs or local PES mechanisms with a particular focus on problems faced by poor communities. CONAFOR, in cooperation with CONANP, INE and NGOs was to carry out the strengthening of the eligible *ejidos* and/or indigenous communities (prospective providers of environmental services) through assistance provided either directly to the communities and *ejidos* by consultants contracted by CONAFOR, or in the form of grants to the communities and *ejidos* to finance technical support to be contracted directly by the community or *ejido*.

Component 4: Payment to Service Providers (\$127.0 million, of which \$1.58 million from GEF)

22. The objective of this component was to finance and make actual payments to environmental service providers for environmental services for water, biodiversity and carbon sequestration and ensure that the service providers were properly compensated.

Component 5: Project and Program Management (\$1.90 million, of which \$0.74 million from GEF)

23. This component was designed to focus on project management mechanisms, including planning and monitoring and evaluation (M&E) by helping new and existing entities and

mechanisms in the government project coordination and supervision and strengthen the effectiveness and quality of project operations.

1.6 Revised Components

24. The components were not revised.

1.7 Other significant changes

25. A second order project restructuring, involving a reallocation of proceeds of the Loan and Grant, was approved on December 9, 2010. This reallocation provided for an increase of US\$7.635 million in the allocation of funding to the payment of Environmental Services Providers (Category 3-A) as a result of an increasing number of activities and project beneficiaries and a corresponding decrease in US\$7.135 million allocated to Support Local Financial Mechanisms (Category 3-B) and in US\$500,000 allocated to goods, technical assistance, training and operational costs for Project and Program Management (Category 1), both of which were and would be financed by the Government through CONAFOR's budget³. The restructuring also increased the Grant's allocation to the Biodiversity Endowment Fund (Category 2) by US\$5 million (doubling its original allocation), and decreased correspondingly the amount allocated to Payment of Environmental Services Contracts (Component 3-A).

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

26. The Project's design benefited from extensive and thorough analysis of lessons learned and recommendations from similar PES initiatives, extensive stakeholder involvement, not only during preparation, but also during implementation through activities built into the Project's design as well, and identification of key risks and corresponding mitigation measures. The Project's design was ambitious but manageable, especially since it would be implemented in multiple locations at the local level.

27. Lessons. PES programs were relatively new at the time the Project was prepared. While experience with these programs was limited, the Bank had been actively working with clients on PES programs, especially in Latin America. The main lessons that fed into the Project's design came from three broad sources: (a) an extensive and detailed review of Mexico's PSAH and CABSA programs, provided as separate annexes in the PAD; (b) other PES programs, especially Costa Rica's *Pago por Servicios Ambientales* program; and (c) other GEF-supported biodiversity and sustainable use projects, including several in Mexico. The main lessons that influenced the Project's design were the need for: (a) sustainable, long-term financing mechanisms to maintain the desired land uses over the long-term; (b) robust monitoring and evaluation to ensure a program's credibility; (c) differentiated payments aimed at increasing efficiency through eligibility rules and payment levels weighing the benefits to be achieved against the costs of conservation; and (d) removing barriers to participation by the rural poor and marginalized groups, especially through training and capacity building activities.

28. **Stakeholder Involvement.** Extensive stakeholder involvement during preparation fed into the Project's design, and led to their continued involvement throughout implementation. Consultations with stakeholders and analysis of issues and risks guided the selection of potential sites for establishing local PES programs, and participatory social assessments and consultations were completed for five of the pilot sites. In response to concerns raised at the time, the Project provided for considerable promotional, educational, analytical, and consultative activities to

³ Categories of Expenditure refer to the allocation of loan and grant proceeds in the Loan Agreement and Grant Agreement, Loan No. 7375-ME and Grant TF 56321 respectively, both dated May 11, 2006.

ensure that both users and providers of services would understand the benefits and costs of PES programs, have input into the design of local PES arrangements, and have the capacity to take advantage of the opportunities offered and meet their obligations as participants. Twenty participatory workshops were held in the five sites, with a total attendance of 278 local inhabitants. Three of the workshops were held specifically for women, the majority indigenous. Interviews were carried out with 74 persons, including *ejido* and community leaders, NGO workers, community/*ejido* technical workers, and local managers and staff of protected areas and CONAFOR. These local consultations led to a project design emphasizing strong indigenous community and *ejido* participation, and identified specific actions that were described in the PAD and reflected in the Project's Operational Manual. A wide range of stakeholders, including indigenous and vulnerable groups were not just consulted about the Project, but had a genuine role to play in its design as well as throughout implementation. This likely had a major impact on mitigating many of the Project's risks, and also demonstrated commitment to the Project's success by the wider public.

29. The Project's implementation arrangements also responded to the findings of these consultations. Regional promoters were provided to maintain close interaction and consultation with local communities and leaders, and play a key role in addressing community problems and concerns and in defining how to tailor the strategy to local conditions. Community-based promoters, selected by indigenous *ejidos* and communities from among their members, were incorporated to serve as liaisons with the regional promoters, and provide essential support such as translating at community meetings, and helping understand technical issues.

30. **Risks.** The Project's preparation identified potential risks, and incorporated in its design components and actions required to mitigate those risks. Perhaps the most important risk was that related to Financial Management (high), since the Project's and the relatively new PES programs' credibility could have been at stake. Appropriate mitigating measures were designed that precluded the financial management risks from materializing during implementation.

31. **Project Design.** The Project's design was both innovative and complex, but necessarily so, with activities under interrelated components that were needed to support expected outcomes. Its dispersion across several pilot sites and other areas, with implementing units at both local and national levels, made implementation challenging. Nevertheless, it was the very decision to include these several interrelated components, providing support to the various actors involved in PES systems that would be required for the Project to produce results. Projects that bring together buyers and sellers, facilitated and intermediated by a national agency, and implemented in some of the most remote areas inhabited by some of the country's poorest, are bound to be complex. While Project design was ambitious, it was not beyond the implementation capacity of a middle-income country like Mexico, with a stated commitment towards protecting the environment, and a strong and established institution—CONAFOR.

2.2 Implementation

32. The US\$45.0 million Bank Loan and US\$15.0 million grant from the GEF Trust Fund to partially finance the Project were approved on March 29, 2006, signed on May 11, 2006, and became effective on October 31, 2006. Despite minor delays in early implementation and disbursements, and occasional minor implementation issues that were readily addressed, the Project's implementation was satisfactory throughout and rated as such in the Project's Implementation Status and Results Reports (ISRs). The Loan and Grant Agreements closed as originally scheduled on June 30, 2011. In addition to benefiting from a sound project design as described in Section 2.1 above, several factors throughout implementation had a positive impact on its solid performance. These included, in particular, a strong and consistent commitment by the Government and CONAFOR to the Project, the fact that the Project was part of a much larger, comprehensive program of Bank and GEF support to the GoM for addressing environmental

issues, and proactive and innovative implementation support by the Bank. On the negative side, implementation was subject to delays, especially in the establishment of the Biodiversity Endowment Fund, and in contracting the multiple staff that were needed for CONAFOR to not only implement the Project, but to implement a greatly expanded program, as described below.

Government Commitment. The GoM's and CONAFOR's commitment to the Project, 33. and to their broader PES programs, was unwavering throughout implementation. While there had been some concern that a political transition in early 2007 could impact this commitment, in fact the transition only resulted in minor delays in effectiveness and later to staffing changes in CONAFOR. On the contrary, the new administration expressed strong commitment to and embraced the Project and their programs. It almost immediately took action to consolidate the PSAH and CABSA programs into a single program—Payment for Forest Environmental Services (PSAB)—that in turn became part of its new, far-reaching ProArbol Initiative, an umbrella of 45 programs managed by CONAFOR with the objective of fighting poverty while recovering forest land and increasing forest productivity mostly in *ejidos* and communities with marginalized populations. This Initiative strengthened the PES programs, streamlined their administration, and, more importantly, more than tripled their resources (from US\$30 million to US\$100 million annually), despite the constraints that the Government faced in view of the global economic crisis (indeed, the crisis had no noticeable impact on the Project). While this strong financial commitment was impressive, the greatly increased resources were not accompanied by a corresponding increase in CONAFOR's capacity, and the burden of implementing a program that was three times the anticipated size was not insignificant although activities supported by the Project were mostly carried out as planned.⁴

34 **Bank/GEF** Assistance. Bank and GEF support through the Project was but one vehicle among a much larger assistance effort in support of Mexico's environmental sustainability that included at the time of preparation, and continues to include, an active program of investment and policy-based lending, GEF grant financing, and non-lending services (Figure 1 below). Obviously, the Bank and GEF's assistance is in response to the GoM's continued commitment to addressing environmental issues and challenges. Yet, the very fact that the Bank and GEF have established a strong partnership with Mexico in this area and have such an extensive assistance program has enabled them to develop synergies across lending, grant and non-lending instruments that benefit constructively their collective outcomes. The Project follows two earlier Community Forestry Projects that together with the second phase of an Environmental DPL supported, among other things, the shaping of policy with respect to national forests and the enactment of a General Law for Forestry Development, and also helped develop the National Forest Information System. Later, the Environmental Sustainability Development Policy Loan provided continuity to the Bank's support for Mexico's PES program, and a proposed Forests and Climate Change Project, now in final phases of preparation, will build upon and expand the initiatives supported by this Project.

35. *Implementation Support.* The Bank's implementation support was timely, proactive, and used creative solutions to resolve emerging issues. The Bank provided intensive support during the change in Presidential Administration, rapidly engaging with the new authorities, and monitoring and supporting project activities through, for example, a workshop with CONAFOR's national and regional authorities and with administrative staff for training on the Project's financial and procurement processes. The need to increase CONAFOR's staff to adapt to the

⁴ In 2007, when the program expanded to \$100 million per year, a decision was made not to review and amend the indicators related to the number of contract that the PSAH program would finance since at the time it was not clear whether the program would remain at this greatly increased level or return to the original \$30 million (or another amount).

operational needs of a program with greatly increased funding was identified early and repeatedly both by the Bank's Project Team and the Country Unit. Although staffing is still short, by completion CONAFOR had assigned to its state delegations 45 staff and 53 promoters for purposes of the Project. Similarly, when the Project faced challenges in creating new, sustainable financing mechanisms, and in advancing on carbon-related aspects, the Bank's team organized a study tour for directors of several of the water utilities in the Project's pilot sites to visit the New York water system, considered to be a world class example of PES. Also, the Bank's role in supporting changes to the program's operational rules around prioritization criteria and differentiated payments based on deforestation risk/environmental service provision significantly improved the Project's sustainability and impact. Finally, the Bank facilitated the carrying out of studies and consultancies needed to get the establishment of a sound system of monitoring and evaluation on track.

36. A Mid-Term Review was conducted in January-February 2010, well beyond the midpoint of the Project mostly due to constraints on CONAFOR's staff that were during most of 2009 helping to organize the United Nation Framework Convention on Climate Change Conference of the Parties (UNFCCC COP) in Cancun. The second order project restructuring (Section 1.7) reallocated funds among the Loan and Grant expenditure categories to reflect the Project's implementation experience. CONAFOR had received substantial budget increases from 2007 to 2010, practically doubling its operational budget. The strengthening of the PES delivery mechanism allowed for a more efficient response to the increasing demand from landowners (both communities and individuals) to enroll in the program. With additional areas under PES contracts, additional funding was required to meet the demand for activities supporting forestry ecosystems in the form of direct payments to common land owners, community members, and small landowners. Consolidation of the guidelines (Component 3) and project management (Component 5) were then financed by CONAFOR's budget. With increased funding for environmental service providers under the Bank Loan (and under the CONAFOR budget), the restructuring allowed for a strengthening of the Biodiversity Endowment Fund. This was in line with the Project's aim of having alternative mechanisms that would ensure the long-term continuity of the PES program in supporting conservation of globally significant biodiversity in the buffer zones of protected areas and the corridors that connected them.

37. **Delays.** Some delays were inevitable, such as for example those resulting from the change in Presidential Administration described above. In addition, the Biodiversity Endowment Fund was only established on October 16, 2008, after a rather long process of developing the Fund's operating rules, obtaining internal approvals for its establishment, and assigning staff. In retrospect, although this delay did not have an important adverse impact on expected outcomes, some of the activities carried out during implementation could have been advanced to preparation, such as preparing at least draft operating rules.

Figure 1: Stages of Climate Change Engagement in Mexico (Forest-related Operations are Highlighted

	Stages of Climate Change Engagement in Mexico						
	Foundations	Early Support	Strengthening	Consolidation			
Knowledge Services	(Before 1999)	 LAC Region Landfill Gas Initiative (FY06) Evaluation of Energy Efficiency Initiatives (FY06) Economic Assessment of Policy Interventions in the Water Sector (FY06) 	 [2007–2009] Carbon Finance Assistance Program for Mexico (FY09) Low-Carbon Study (FY09) Mass Urban Transport-Federal Program (FY09) 	 [2010–) Social Impacts of Climate Change (FY11) MoU Subnational Climate Change (FY11) Othon P. Blanco Sustainable Development Strategy (FY11) Climate Change Public Expenditure Review (FY12) Forest Carbon Partnership Facility (FY11-13) Advisory Services under the Program on Forests (PROFOR) (FY11-on) 			
Financial Services	 Solid Waste Management Pilot Project (FY86) Urban Transport Project (FY87) Community Forestry (FY97) 	 Renewable Energy for Agriculture Project (FY99) Indigenous and Community Biodiversity Conservation Project COINBIO (FY01) Introduction to Climate- friendly Measures in Transport (FY03) Mexico Environmental Services Project (FY06) Programmatic Environment DPL I and II (FY06) 	 Climate Change DPL (FY08) Environmental Sustainability DPL (FY09) Sustainable Rural Development Grant (FY09) 	 Green Growth DPL (FY10) Adaptation to Climate Change in the Water Sector DPL (FY10) Urban Transport Transformation Program (FY10) Adaptation to Climate Change Impacts in the Coastal Wetlands (FY11) Low-carbon DPL (FY11) Low-carbon DPL (FY11) Social Resilience to Climate Change DPL (FY12) Forest and Climate change SIL and FIP (FY12) Sustainable Production Systems and Biodiversity GEF (FY12) Ecosystems Adaptation DPL (FY13) 			

Convening and Coordination Services	• Consolidation & Strengthening of the Mexican Office for Greenhouse Gas Mitigation (FY99)	• Preparation of the CTF Investment Plan (FY09)	 Energy-efficiency conference (FY10) Water sector events in the lead-up to COP16 (FY10) Agriculture and forestry sector events during COP16 (FY10)
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^a Figure highlights several significant examples and does not aim to exhaustively illustrate all climate change activities

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

38. **Design.** Monitoring and evaluation was mainstreamed into most of the Project's components, and were to be conducted at three levels: (a) contract compliance; (b) impact monitoring; and (c) project implementation. The Project had a well-defined Results Framework, containing expected outcomes, intermediate outcomes and actions/outputs against which its progress would be monitored. CONAFOR's project staff was to be responsible for overall project monitoring, including the activities of both the new and existing PES mechanisms, aggregating M&E inputs for project-level decision-making and reporting. Also, CONAFOR's staff would be responsible for contracting out studies for the baseline, beneficiary assessments and impact evaluation, and providing technical supervision.

39. Learning was very much one of the Project's aims, and its design incorporated mechanisms to achieve this, including special semiannual reports on lessons learned and semiannual workshops that would provide a forum to understand for each site the causal links between specific land uses or land use changes and environmental services. Site-specific indicators were to be defined in each area as part of the environmental service contracts. And while causal linkages would be site specific, the results and learning form the several pilot areas were expected to provide valuable guidance and insights for replication for PES programs, in Mexico and elsewhere.

40. By project launch, an M&E system and methodology was to be in place to track implementation, compliance of land users with service contracts, and progress towards results. The system would comprise: (a) a Management Information System (MIS) to track results and financial indicators and provide feedback for decision-making; (b) environmental services contract compliance; (c) annual beneficiary assessments to report target groups' perceptions; (d) site-specific monitoring and globally significant biodiversity and hydrology evaluation studies to quantify land use changes/impacts and environmental services produced, with baseline assessments for each site and each contract and both mid-term and final project studies; (e) data collection to understand better causal links between types of land use changes and environmental services; and (f) standard auditing and supervision missions to review the technical, fiduciary and safeguards aspects of the Project.

41. **Implementation and Utilization**. CONAFOR uses three main monitoring tools: (a) a Management and Information Analysis System (SIGA II) that tracks the management of payments allocated under the programs; and (b) the *Sistema Único de Rendición de Cuentas*, and (c) a Payment System that tracks and controls the payments to beneficiaries of CONAFOR's programs. These systems can be disaggregated to the minimum unit (community/*ejido*/private land owner) or aggregated by state and municipality. The systems allow observing information about gender, indigenous groups and the number of beneficiaries within an *ejido* or community. For the national PES, CONAFOR designed and implemented a *Sistema de Información y Seguimiento de Servicios Ambientales del Bosque* (SISSAB). SISSAB provides a single system

for monitoring PES information, accessible to both CONAFOR's central and state offices. CONAFOR is incorporating information on *Fondos Concurrentes* in SISSAB.

42. CONAFOR has access to databases of other agencies to monitor five criteria, including: (a) over-exploited aquifers (CNA); (b) Index of Deforestation Risk (INE); (c) Human Development Index, by municipality (CONAPO); (d) National Protected Areas (CONANP), and (e) Priority Areas for Bird Conservation (CONABIO). Forest cover monitoring is done yearly, through SPOT satellite image analysis and random site visits on a selected number of enrolled properties. If land clearing is detected, current and future payments under the respective contract are cancelled, and the community or *ejido* is withdrawn from the program. During implementation, CONAFOR found only about 2.5 percent of non-compliance with their contract through their monitoring efforts (mostly service providers that no longer desired to participate, fires, or changes in land use). CONAFOR carried out a survey of environmental services providers to analyze the contracts' socio-economic and cultural impacts on the beneficiaries. A total of 430 beneficiaries were surveyed and the information is being processed for analysis.

2.4 Safeguard and Fiduciary Compliance

43. Safeguard Compliance. Although it was expected to be overwhelmingly positive from an environmental standpoint, the Project triggered four of the Bank's Safeguard Policies: Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP 4.04), Indigenous Peoples (OP/BP 4.10) and Forests (OP/BP 4.36). The Project's only possible adverse impacts were considered to be strictly unintended, possibly including: (a) tradeoffs between different environmental objectives (such as biodiversity and improved water flows); (b) misallocation of PES funds (such as landowners that had not complied with their contracts); or (c) perverse incentives (such as people moving onto new lands so that they could apply for PES). The Environmental Management Plan that was finalized during preparation required incorporating specific requirements in the Project's Operational Manual, the PSAH and CABSA operating rules, and the PES Eligibility Criteria that were all designed to limit possible adverse impacts. An Indigenous Peoples Development Plan (IPDP) was completed and disclosed before Appraisal. The IPDP specified activities that were to be carried out with indigenous communities participating in the PSAH and CABSA programs, and required that Area Specific Indigenous Action Plans be prepared for each of the eight pilot areas before PES contracts with local private financing were signed in each area. Due to the nature of the Project, and its design very much focused on the environment and indigenous communities, supervision of compliance with safeguard policies was carried out routinely during the course of the Bank's implementation support. An initial supervision after the first year of implementation confirmed that adequate procedures related to both environmental and social safeguards had been incorporated in the Project's Operational Manual. There were no issues with safeguard compliance throughout implementation.

44. *Fiduciary Compliance.* The Project's <u>Financial Management</u> Assessment carried out during preparation rated its financial management risk as high, but that the identified risks would be mitigated by (a) using CONAFOR's resources to strengthen the internal control environment; (b) NAFIN's supervision; and (c) closely supervising project implementation to allow earlier detection of financial management issues and ensuring the proper use of project funds. CONAFOR was to be responsible for bidding, contracting and paying consultants, for producing adequate procurement reports, and for preparing and submitting annual procurement plans and periodic report. The Implementing Agency's <u>Procurement Capacity</u> Assessment carried out during preparation rated its procurement risk as average, and found that with measures included in an Action Plan the agency would be able to improve its capacity and comply with the Bank's procurement requirements. These included, *inter alia*, the following: (a) improving filing and archiving facilities; (b) modifying the Operations Manual to strengthen legal security and include

a flow diagram on procurement transactions; (c) speeding up the program of electronic purchases; and (d) submitting to the Bank a revised version of the Procurement Plan for the Project's initial 18-month implementation period.

45. From the start, the Bank worked closely with CONAFOR to ensure that steps agreed during preparation would be taken to strengthen its financial management and procurement capacity before effectiveness. CONAFOR acted expeditiously to hire financial management and procurement staff, and the Bank continued to provide close monitoring of financial management and procurement issues during the first year of implementation, providing specific input to CONAFOR for updating the Operational Manual, the Project Implementation Plan, Annual Operating Plan and other related documents. The Bank also conducted a workshop/training for CONAFOR's administrative staff responsible for the Project's financial and procurement processes. Project audits were received routinely, and contained unqualified opinions. Periodic ex-post reviews of procurement were carried out, and found only issues relating to not following Bank procurement procedures for equipment purchases, which were then not presented to the Bank for financing.

2.5 Post-completion Operation/Next Phase

46. Although CONAFOR had considered requesting additional financing for the Project, this option was dropped in favor of developing a new, broader project that would better integrate the PSAB program with CONAFOR's other forestry programs. The Development Objective of the Mexico Forests and Climate Change Project (recently negotiated) is 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+). The proposed 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 agency, promote the alignment of rural development policies and programs, and pilot innovative REDD+ approaches. The proposed project would have an important component of institutional strengthening that would: (a) bring CONAFOR's monitoring and evaluation systems in line with the institution's rapidly growing portfolio; (b) carry out analytical work and participatory processes aimed at improving public policies and programs; (c) modernize CONAFOR's administration and advisory capacities at the central and state level and promote the sharing of good practices and new technologies, and (d) provide training to a roster of private technical service providers who advise communities in preparing and implementing projects for CONAFOR funding. It would also continue and scale up previous Bank engagement in community forestry and PES, by supporting five programs that CONAFOR identifies as a priority package for the achievement of its overall mandate, including the PES program supported under this Project. Finally, Mexico is designing a REDD strategy with support from the Forest Carbon Partnership Facility (FCPF) and hopes to participate in the FCPF's Carbon Fund. Under the proposed project, Mexico would pilot using PSAB for REDD+ in two Early Action areas in the State of Jalisco and the Yucatan Peninsula that were selected for their REDD+ learning, implementation, and replication potential. The proposed Project is not merely a continuation of this Project, but one that builds on this Project's achievements, integrates them within the framework of all of CONAFOR's programs, and, therefore, takes the concept of PES to a higher level.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

47. The Project and its objectives, its design and the implementation procedures and arrangements that it put in place remain highly relevant to the GoM's, the Bank's, and GEF's

assistance strategies and priorities. Environmental degradation is a limiting factor to economic growth, competitiveness, and social welfare, and deforestation and loss of biodiversity are key issues affecting Mexico's environmental sustainability. In fact, since the time the Loan and Grant for this Project were approved, its relevance has increased dramatically. The need to address environmental issues and climate change has become a unifying, consistent and increasingly high profile theme of Mexican social and economic policy. The widely consulted 2007-2012 NDP had environmental sustainability as one of its four pillars. The main initiative in the NDP's environmental sustainability pillar is to turn the concept into a cross cutting element of public policies and ensure that all public and private investments are compatible with environment protection. On May 25, 2007, the President of Mexico announced the GoM's National Climate Change Strategy (Estrategia Nacional de Cambio Climático, ENCC) that placed climate change adaptation and mitigation at the core of Mexico's national development policy, establishing the long-term agenda and setting medium- to long-term adaptation and mitigation goals. Subsequently the GoM designed and adopted the Special Climate Change Program (Programa Especial de Cambio Climático PECC) in 2009 as its over-arching instrument for combating climate change and making its ENCC operational. The PECC sets out a four-pillar program that includes: (a) a long-term vision for government action; (b) sectoral plans for GHG mitigation; (c) plans for adaptation; and (d) cross-cutting policy initiatives. Under the long-term vision, the PECC establishes an indicative target of reducing GHG by 50 percent by 2050, against a baseline of 2000. The PECC notes that the mitigation effort the GoM intends to develop requires transformations in energy use, natural resource management, and land use.

48. The Bank's involvement with Mexico in the area of environment dates back to the mid-1990s, when small investment projects in the areas of waste, transport and forest management laid the foundations for a broader, all-encompassing engagement. After formulation of the GoM's ENCC, environmental sustainability has assumed ever increasing importance within the Bank's support strategy. The Bank's FY2008-2013 Country Partnership Strategy (and the Strategy Progress Report) has embraced Mexico's environmental and climate change agenda as a central feature of collaboration.⁵⁶ Now, the GoM and the Bank have a partnership in this field that currently includes the full range of Bank instruments, including several environmental DPLs, investment lending, a strong program of non-lending support, including at present a Program of Advisory Services for Forestry, and a wide range of different grant instruments.

49. The Project also continues to be fully consistent with three of GEF-5 Focal Area Strategies, including Biodiversity, Land Degradation (Desertification and Deforestation), and Sustainable Forest Management.

3.2 Achievement of Project and Global Development Objectives

50. The Project met its Development Objective that was to enhance the provision of environmental services of national and global significance and secure their long-term sustainability by strengthening and expanding the national PSAH and CABSA programs and supporting the establishment of local PES mechanisms in selected pilot areas. In most cases, the Project exceeded by far the targets established for each of the Key Indicators used to measure progress. It also met its Global Environmental Objective that was to enhance and protect biological diversity and preserve globally significant forest and mountain ecosystems.

⁵ Country Partnership Strategy, Report No. 42846-MX dated March 4, 2008 and Country Partnership Strategy Progress Report No. 52776-MX dated February 26, 2010.

⁶ The CPS' Country Development Objective of Assuring Environmental Sustainability includes specific goals for the number of ha of areas under sustainable forest management (goal, increased by 33 percent) and for reforestation (goal, 3 million ha by 2012).

Preliminary findings of a project evaluation indicate that the Project had an important impact on increasing hydrological, biodiversity conservation, and carbon sequestration services.⁷

51. Mexico has become recognized as an international leader in forest management. Its PES program is the second largest in the world in terms of total area enrolled. By the end of 2010, 2.5 million ha were under environmental service contracts, financed by existing sources that contributed to increases in hydrological, biodiversity conservation and carbon sequestration services (against a target of 500,000 ha). The PSAB program was established successfully, providing an instrument for leveraging public resources by bringing together buyers of environmental services and service providers. PSAB currently covers a little under five percent of Mexico's forest area⁸. An additional 57,357 ha were financed by new sources, through the Fondos Concurrentes program. Although this falls short of the target of 100,000 ha, an estimated additional 57,000 ha are in the pipeline for signature in early 2012 with funding from the Biodiversity Endowment Fund and Fondos Concurrentes, which will bring the total to above the target. Of the 2.5 million ha under environmental service contracts, 353,340 ha are located in the buffer zones of protected areas and the corridors that connect them, including the Mexican portion of the MBC. The hydrological window of PSAB alone has 2,803 hydrological contracts for forest conservation (against a target of 200 contracts). A total of 53 proposals for carbon sequestration projects have been submitted for possible commercialization. A project in Oaxaca has commercialized 86,000 tCO₂e from 3,196 ha from 2008 to 2011. Stand-alone local PES mechanisms were being supported and are currently working in four pilot sites (Cuenca del Rio Pixquiac; Fabricas de Água Centro de Sinaloa; SAS Veracruz; and Cuenca del Alto Nazas Irritila), against a target of two sites. The Biodiversity Endowment Fund, Fondo Patrimonial de la Biodiversidad, has been established with initial and subsequent capital contributions totaling \$20 million, double the target originally established. It currently has about \$21.5 million in its endowment, and a strategy to further capitalize the fund was approved in early 2011.

52. While it is not yet possible to measure the impact of these service contracts, it is possible to infer that they are having an important outcome in terms of reducing deforestation. A recent study that evaluated that program using a combination of matching and regression methods, found that deforestation decreased by 10 percent in participants properties when compared to matched controls selected from rejected program participants, while another study by INE found that PES recipients had reduced their deforestation from 1.6 percent to 0.6 percent.⁹ Both results are likely to be conservative, in that they used data from the program's early years, prior to the introduction of prioritization criteria.

53. More importantly, CONAFOR has demonstrated the capacity and resources to implement differentiated mechanisms, adapted to site-specific realities as demonstrated by its introduction of differentiated payment levels in the PSAB program and of special programs (which include PES as part of an integrated package of instruments) targeted at the conditions of specific areas, and its experience in collaborating with local service users through the *Fondos Concurrentes* program. Whereas previously its contracting process was done and recorded by hand and with physical papers, CONAFOR now has a fully functioning information system that tracks contracts, payments, and compliance. Although staffing issues in terms of the number of staff remain a concern, CONAFOR has the capacity to scale up the experience it has acquired under the Project,

⁷ A Project Evaluation is currently underway and expected to be completed by December 2011.

⁸ For purposes of comparison, Costa Rica's program, which has been in operation for almost twice as long, covers about 10 percent of the country's forest area.

⁹ Alix-Garcia, J.M., E. Shapiro, and K.R.E. Sims, 2010. —The environmental effectiveness of payments for environmental services in Mexico: Results from a pilot analysis." Madison: University of Wisconsin.

Mu oz Pi a, C. 2011. - Programa de Pago por Servicios Ambientales Hidrol gicos de los Bosques." Mexico: INE.

and has in place the institutional mechanisms needed to cross-fertilize the lessons of experience under different sites. The fact that CONAFOR has a great majority of its staff on a permanent basis (as opposed to consultants) bodes well for sustainability (para. 64). It has in place a system to monitor PES compliance, including the monitoring of effective biodiversity conservation as measured by vegetation cover and indicator species in collaboration with CONANP, and is currently working on developing evaluation mechanisms, with outside technical assistance. Several evaluations are ongoing. The first is analyzing the socioeconomic impact of PSAB on the environmental service providers, and the effectiveness of the program on deforestation. The results will be used to evaluate the impact of PSAB. Another study is assessing four watersheds considered as priorities for the *Fondos Concurrentes*. The objectives are to establish a baseline, design a monitoring system for the watersheds and analyze the institutional capacity to implement the contracts. These results were achieved through the implementation of activities under each of the Project's five inter-related components, as described in Annex 2.

3.3 Efficiency

54. It is impossible to come up with a precise measure of efficiency since it is not possible to quantify the benefits and costs of the PSAB and PES programs accurately. The economic and financial analysis prepared for this ICR concludes that, while the current net benefits of the PSAB program cannot be estimated, they are very likely to be positive¹⁰. The *upper bound* on PSAB costs (including opportunity costs, management costs, and transactions costs) can be estimated with a high level of confidence as being only about US\$32/ha/year, while they could be as low as US\$2/ha/year in many cases. Thus even relatively modest average levels of hydrological and other net benefits per hectare would be sufficient to justify the program.

55. As noted above, the program has contributed to reducing deforestation, thus reducing pressures on Mexico's natural habitats. Over 350,000 ha of forest in the buffer zones of protected areas and the corridors that connect them, including the Mexican portion of the MBC, are covered by conservation contracts, and payments from the Biodiversity Endowment Fund are poised to add another 22,000 ha. The program has also attracted additional funding for conservation of areas of biodiversity importance through the *Fondos Concurrentes*, which currently cover over 15,000 ha in protected areas and their buffer zones.

56. 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 costs of conducting fire patrols). The benefits include the payments received and any benefits that they may derive from the conserved forest area in ways that do not conflict with contract requirements. The PSAB 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 not, they could simply choose not to participate. In addition to financial benefits, participating communities are also thought to have benefitted through improvements in social capital.

¹⁰ It is difficult to measure benefits since they depend on the extent to which the Project is additional, and on the change in the value of services in those areas where land used was actually changed. Additionality is inherently difficult to estimate as it depends on an unobserved counterfactual. Efforts that have been made to estimate it show that, while positive, additionality is relatively low, with much room for improvement. In terms of changes in the value of services generated, the impact on water services is inherently difficult to estimate as it: (a) varies substantially from case to case, depending on the nature of both the upstream land uses and the downstream water users; and (b) has a high natural inter-annual variation, making the impact of improved conservation difficult to discern, particularly over a short time period. Carbon benefits are easier to measure, and there are estimates in this ICR. Biodiversity benefits are also very hard to measure.

57. CONAFOR's transaction costs for PES are limited to 4 percent of payments, or about US\$1.60/ha/year, although it is likely that some additional costs are born under other parts of CONAFOR's budget. Preliminary findings of the project evaluation highlight CONAFOR's high efficiency in the management of funds under PES contracts.

58. Project costs, by component, are presented in Annex 1.

3.4 Justification of Overall Outcome Rating

Rating: *Satisfactory*

59. The Project's Overall Outcome Rating, for both its Development Objectives and Global Environmental Objectives is Satisfactory. The Project continues to be extremely relevant to the country, to the Bank, to GEF, and to the broader environment. With the exception of impact monitoring, which is now being implemented and will be achieved in the near future the Project largely met or exceeded the targets of its Key Indicators. Work on impact monitoring is now ongoing, and there is no doubt as to the GoM's and CONAFOR's commitment to put in place a system to understand and document routinely the causal links between specific land uses or land use changes and environmental services, and the amount of change needed to produce specific quantities of those services. CONAFOR today, has considerably more experience in managing PES projects, tailored to specific sites, and the capacity to share the lessons of experience not only among the many national projects, but internationally, as well. In fact, Mexico today can be considered an international leader in the successful use of PES mechanisms.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

60. Throughout implementation, the Project supported contracts benefitting slightly over 321,000 families in *ejidos* and communities, and small land owners. The percentage allocation of PES contracts by beneficiary group during implementation was as follows:

infocution of I Lb contracts	by Denemenary Group	
		PES in Priority Areas Supported
	All PES	by the Project
Service Provider:	(%)	(%)
Ejidos	63	64
Communities	21.5	11.3
Private property	15.4	24.7

Allocation	of PES	Contracts	by	Beneficiary	y Group
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61. The results of a survey analyzing the socio-economic and cultural characteristics of the beneficiaries of environmental service contracts are being tallied. Nevertheless, the pilot areas tended to correspond to some of the poorest communities in Mexico, suggesting that the Project had a positive pro-poor impact. Preliminary findings of the project evaluation indicate that the Project unquestionably had an important impact on the social well being of service providers and their families.¹¹ In fact, because of this, the evaluation finds that in many circles PES programs are often seen as social programs.

62. GEF's STAP advisory document on PES states —PE initiatives explicitly compensate landowners for the losses that set-aside conservation and sustainable land use may impose upon

them. Thus, although the evidence of their social impacts to date is limited, PES may be a conservation model that is more likely to alleviate poverty than most traditional GEF projects."¹²

(b) Institutional Change/Strengthening

63. The Project was implemented through CONAFOR's existing structure, coordinated by a program coordinator, three sub-coordinators, technical specialists, administrative staff, and several regional level promoters and liaisons, as described in the PAD. Regional promoters, in CONAFOR's regional offices, and community promoters, selected by the communities from within their own members, ensured that the PES projects maintained close links with local communities and leaders, and that their problems and concerns were addressed, and programs were tailored to local conditions. As it was implemented through the existing structure, all of the strengthening and institutional capacity building under the Project, including compliance monitoring, outreach, dissemination, learning, will continue to be in place after completion, and continue to be strengthened under the proposed Mexico Forestry and Climate Change Project. Links with new local communities will need to be established and built, as and when new communities come on board under new PES programs, but the capacity within CONAFOR for establishing those linkages, and designing projects that capitalize upon the benefits they provide now exists within CONAFOR. Also, the formal cooperation agreements that CONAFOR established with CONAGUA, CONABIO, INE, CONANP, and FFM under the Project will continue, thereby providing an important source of coordination and information sharing among these agencies to the benefit of environmental services programs.

64. More importantly, during implementation there was an important shift in CONAFOR's staffing policies that has produced a noticeable impact on its institutional capacity and sustainability. When implementation began, about 80 percent of CONAFOR's staff were consultants. While the absolute numbers of staff were reduced, the ratio of permanent staff to consultants was reversed: today about 80 percent are permanent staff. This shift was a direct result of the Project, and provides a strong confirmation of the Government's commitment to forestry.

- (c) Other Unintended Outcomes and Impacts (positive or negative)
- 65. N/A

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

66. A Stakeholder Workshop was held in Mexico City on November 15-16, 2011. It followed a similar event held a year earlier. With the Project formally completed, this Workshop aimed to present its final results while providing a forum for cross-fertilization of experiences whereby managers and others involved with PES mechanisms in Mexico and other countries could learn from one another and from international experiences with similar mechanisms. The Workshop brought together over 140 persons, from 47 institutions, including CONAFOR (central and district offices), environmental services users and providers, NGOs, state and local governments, and representatives from other countries applying PES mechanisms. The Workshop highlighted the Project's enormous accomplishment in terms of bringing together the various actors involved with PES mechanisms to work harmoniously together towards a common objective.

4. Assessment of Risk to Development Outcome

Rating: Negligible

¹² GEF, Scientific and Technical Advisory Panel, Payments for Environmental Services and the Global Environment Facility, Revised Edition March 2010.

67. The Risk to Development Outcome is considered Negligible. The programs supported by the Project are all part of the GoM's larger *ProÁrbol* program that has been in existence for several years, and that counts on significant commitment from the GoM, reflected in part through consistent funding. There has been considerable demand, both on the side of service users and service providers, for the PES model. The consultative process and model, addressing both the needs of service providers and users, that was established under the Project was largely successful, and will be sustained and expanded, in that way generating and expanding the cross-fertilization of ideas and models that can be adapted depending on the peculiarities of different areas and sites that will benefit from these programs in the future. Also, there has now been considerably more experience both in Mexico and in the world with these types of PES programs, and more recognition that they can be beneficial not only in terms of environmental sustainability, but also in terms of poverty alleviation.

68. More importantly, the activities supported under the Project have become important vehicles in Mexico's broader environmental strategy. They are an integral component of Mexico's ENCC and PECC, necessary for achievement of the impressive commitments the GoM has made in the context of its PECC. CONAFOR will continue to count on Bank assistance under the proposed Mexico Forestry and Climate Change Project (Section 2.5) that will address, inter alia, strengthening its institutional capacity, including that of monitoring and evaluation, to manage a greatly expanded mandate and portfolio, with integration among all of its programs.

The one factor that could conceivably affect sustainability is the forthcoming change in 69. administration in end-2012. Nevertheless, given the position that Mexico has achieved in terms of international recognition for its broader environmental strategy, the solid institutionalization of its strategy and programs throughout the public sector on a cross-sectoral basis, and the sheer magnitude of programs and projects that it has under way or designed to carry out (including a continuation and expansion of activities under this Project), it is difficult to envisage that the Project's development outcomes could be at risk. In addition, as PES mechanisms have been seen as successful in meeting both environmental and social objectives, there is an increasing demand from service buyers and providers, NGOs, and state and local governments for providing increasing support for these programs in the future. Adding new financing sources would mitigate the small but real risk that government funding could conceivably be reduced in the future. Further, even if government financing were to be sustained or increased, additional financing from alternative sources would allow more areas to be conserved, or more challenging situations (requiring possibly higher payments) to be addressed. The State of Mexico, for example, has established its own PES program, PROBOSQUE, which currently conserves 50,000 ha of forest. This should help ensure that continued funding for these programs are high on a future government's priorities.

70. The Biodiversity Endowment Fund was established on October 16, 2008, as a separate sub-account of the Fondo Forestal Mexicano, with established operating rules, *Lineamientos de Operación del Fondo Patrimonial de Biodiversidad*. The Fund has been capitalized through contributions from the GEF Grant and CONAFOR, and together with the interest generated, currently totals approximately US\$21.5 million. The Technical Committee of the Biodiversity Endowment Fund is established and functional, and has approved the financing of a first proposal for biodiversity conservation in late 2011.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: *Satisfactory*

71. Bank Performance in Ensuring Quality at Entry is rated Satisfactory. The Bank responded to an important strategic priority, conducted a thorough review of the then existing PSAH and CABSA programs, identifying areas for improvement, and sought lessons of experience from the then few PES programs in existence. It used the knowledge acquired through this review and lessons to work with the Government to help frame a Project to be partially funded by both the Bank and GEF grant funding that responded to its priorities, and that contained realistic expectations in terms of what could be accomplished in terms of results during the implementation period. It correctly identified challenges in the area of financial management, and included actions to be taken that would preclude any issues in this area from undermining the Project's credibility. There were some minor inconsistencies in the wording of the Project's indicators as presented in the main body and the results framework in Annex 3 of the PAD. This ICR follows the wording of the indicators in the results framework.

(b) Quality of Supervision

Rating: *Satisfactory*

72. The Bank's Performance in Quality of Supervision is rated Satisfactory. Bank supervision was hands-on and proactive, looking ahead to avoid potential issues, and using innovative methods for engaging with the client to produce results, e.g., financial management, the transition in Government and the study tour to New York (Section 2.2). Supervision reporting was candid, highlighting potential issues and early on providing and updating information on results that had been achieved. The Bank's supervision effort played a catalytic role, together with CONAFOR, in providing a forum for the exchange of experiences of the different PES projects supported under the Project, including through two Stakeholder Workshops (Section 3.6). The Government and the Bank worked almost seamlessly as a team, with different roles, but, given the limited experience with PES programs at the time, learning together and bringing new knowledge to the table from other projects and PES initiatives under implementation globally.

(c) Justification of Rating for Overall Bank Performance

Rating: *Satisfactory*

73. The Overall Bank Performance is rated Satisfactory, based on the same ratings for both Quality at Entry and Quality of Supervision.

5.2 Borrower Performance

(a) Government Performance

Rating: *Satisfactory*

74. The Government's Performance is rated Satisfactory. The Government demonstrated unwavering commitment to the Project and its objectives throughout implementation (Section. 2.2). Although concern had been raised about the possible impact of the Ministerial change in 2007 on the Project, the Government's commitment actually strengthened in the aftermath. This commitment was reflected not only through new, broader, initiatives, including the adoption of its ENCC and PECC and other commitments, but through the increased funding that was provided (over and beyond what was expected under the Project), despite the difficult macroeconomic reality that the country was facing at the time.

(b) Implementing Agency or Agencies Performance

Rating: *Satisfactory*

The Implementing Agency's (CONAFOR's) Performance is rated Satisfactory. 75. CONAFOR remained committed to the Project's Development and Global Environment Objectives throughout. It accepted a greatly increased mandate when the Government announced *ProÁrbol*, and carried forward with the Project and the new program, despite staffing issues that made managing such an increased program challenging. It sought and obtained cooperation agreements with the institutions that could provide data and information that was necessary to prioritize, manage and monitor its programs (Section 3.5(b)), and worked through a decentralized institutional framework that was strengthened under the Project. By design, the Project required beneficiary/stakeholder consultation and involvement, and CONAFOR ensured that this became not just a formality, but rather a means of developing meaningful PES projects and ensuring committed stakeholders, throughout implementation. Despite efforts to strengthen monitoring of PES compliance (which it did), evaluation of the program and the PES projects suffered delays, perhaps because it was just too much in such a short period of time. Also, only now are several projects producing the sustained results to feed into and reveal significant impacts. CONAFOR is the agency entrusted with *Proárbol* (and consequently with the initiatives supported under the Project—PSAH, CABSA and other PES), and there is no doubt that the institution has both the capacity and the will to continue carrying out, expanding and improving these programs, as supported by the Project, under the proposed Mexico Forestry and Climate Change Project. CONAFOR worked seamlessly with the Bank as a team during preparation and implementation (see para. 71).

(c) Justification of Rating for Overall Borrower Performance

Rating: Satisfactory

76. The Overall Borrower Performance is rated Satisfactory, based on similar ratings for both Government Performance and Implementing Agency Performance.

6. Lessons Learned

77. The following Lessons were learned from the Project's design and implementation.

- High-level Government buy-in was critical for success. The Government's commitment at the highest levels, and the corresponding substantial budgetary allocations were crucial for Project success. Support from reputable members of academia, and the various studies conducted provided credibility to the Project, and helped secure the buy-in from the SHCP and from a large majority of the chamber of the legislative branch. This buy-in, in turn, guaranteed the continuity and large expansion of CONAFOR's budget, and supported required adjustments in legislation.
- Establishment of strong inter-institutional arrangements is necessary for strong local mechanisms. The Project expanded and created new arrangements for creation of local mechanisms for PES, involving state and municipal governments and the private sector. The National Water Commission became a champion for creation and implementation of these local mechanisms, which has contributed to the Project's expansion well beyond the original target areas. The Project also created alliances with biodiversity conservation institutions that were instrumental for the promotion and strengthening of the local beneficiaries' associations.
- Development of robust monitoring and evaluation is important for the credibility of PES programs. The credibility of environmental services programs relies not only on fiduciary monitoring but also mainly on quantification of the actual impacts of environmental services. The Project developed a monitoring and evaluation system which includes definition of baselines, regular monitoring of vegetation covers with remote-sensing technologies, and intense field work for evaluation of environmental and social impacts. The system needs to be

refined and improved to accommodate for the expansion of CONAFOR's programs in the future.

- Program results are highly correlated with the quantity and quality of technical assistance that communities received. There are four alternatives for providing adequate technical assistance for forestry programs: (a) increase the size and improve further the quality of CONAFOR staff; (b) improve the quality of private extension agents indirectly funded by the forestry programs; (c) involve staff from other government agencies in program implementation; and (d) use matching funds to encourage NGOs, universities, and other entities to provide technical assistance in return for public funding for the communities they work with. Several of these alternatives are being supported under the proposed Forestry and Climate Change Project.
- Stakeholder involvement is important for reaching workable proposals and obtaining needed buy-in. The Project was catalytic in bringing together service users, service providers, NGOs, state and local governments, and CONAFOR to work harmoniously towards its objectives. Stakeholder involvement throughout implementation was a critical aspect of its success. In this respect, the *Comité Técnico Consultivo*, established under the Project, provided an open and wide-ranging platform that allowed debate and discussion of challenges that were being faced during implementation, and reaching workable proposals and solutions with buy-in of all of those involved.
- *PES programs should be viewed as one within a framework of other approaches aimed at environmental sustainability.* PES mechanisms can provide a powerful, effective and efficient tool for addressing critical hydrological, biodiversity conservation and carbon sequestration services. However, they should not be seen as the only, privileged tool for addressing these challenges, but rather, as one within a package of other programs, including for example programs for national protected areas, aimed at environmental sustainability. The *Programas Especiales* are an example of this integrated approach.
- The Project faced several challenges, and a flexible approach was necessary. Among the main challenges the Project faced was that of balancing the definition and enforcement of clear operational procedures and eligibility criteria, with a flexible project approach, which allows for more targeted site-specific approaches. Another challenge was that incorporating poor and marginalized groups as service providers required significant investments on training and capacity building for less-organized and deprived *ejidos*.¹³ The approach adopted of supporting gradual improvements in establishing a differentiated payment structure was more effective than a single push for major changes all at once.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

(a) Borrower/implementing agencies

78. The National Forestry Commission (CONAFOR) reviewed the draft ICR and provided comments on December 7, 2011 (see Annex 7). The agency agreed with the report's findings. In addition, the Commission noted that this operation supported the strengthening of the agency's capacity, as well as the capacity of the partner civil society organizations, communities and ejidos, ensuring the long-term sustainability of the policy on payment for hydrological services and biodiversity conservation. It also mentions that

¹³ There have been no formal impact evaluations of the various approaches to supporting the participation of disadvantaged *ejidos*. Unlike Costa Rica's PES program, which works primarily with individual farmers, Mexico's PSAB program works primarily with *ejidos* and thus has many fewer contracts. Moreover, not all *ejidos* require support to be able to participate. The very low number of possible observations makes formal impact evaluation difficult.

the Project contributed to create and advance the legal and financial components for the design and implementation of local mechanisms for the payment for environmental services (PES) in environmental priority zones, as well as in places where the users of environmental services demonstrated willingness to pay for these services. The agency highlighted the social importance of the PES which, in compliance with Bank rules, strengthened the gender and indigenous peoples' inclusion aspects in the criteria for selecting PES beneficiaries. As the criteria established by the Project also included marginalized communities, this operation became one of the governmental programs with strongest influence on poverty reduction. CONAFOR commends the Bank for the steady support obtained from the Project team and emphasizes the importance of the Project team's understanding of the dynamics of local communities in Mexico and the technical expertise provided, which greatly contributed for the successful achievement of the PES objectives.

(b) Cofinanciers

(c) Other partners and stakeholders (e.g. NGOs/private sector/civil society)

Annex 1. Project Costs and Financing

Component	Appraisal Estimate (US\$m)	Actual (US\$m)	% of Appraisal
1. Developing Sustainable Financing Mechanisms	14.47	14.47	100%
2. Developing and Strengthening PES Delivery Mechanisms	3.51	3.51	100%
3. Supporting Environmental Service Providers	9.56	9.56	100%
4. Payment to Services Providers	127.00	127.00	100%
5. Project and Program Management	1.90	1.90	100%
Total Baseline Cost	156.44	156.44	100%
Physical Contingencies	0.00	0.00	
Price Contingencies	0.00	0.00	
Total Project Costs	156.44	156.44	100%
Front-end fee IBRD	0.11	0.11	100%
Total Financing Required	156.56	156.56	100%

(a) Project Cost by Component (in US\$ Million equivalent)

(b) Financing

Source of Funds	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
GEF	15.00	15.00	100%
World Bank	45.00	45.00	100%
Government of Mexico	80.66	80.66	100%
Private	15.90	15.90	100%
Total	156.56		100%

Annex 2. Outputs by Component

79. Project outputs, by component, were as follows:

Component 1: Developing Sustainable Financing Mechanisms

80. The objective of this component was to develop new, sustainable financing sources based on payments from service users, which could then be channeled either through PSAH or through stand-alone local PES mechanisms. This component was to help develop financial mechanisms based on the main types of environmental services: water quality and regulation (component 1A), biodiversity conservation (component 1B), and carbon sequestration (component 1C). It was anticipated that some of these mechanisms would be stand-alone, independent mechanisms while others would work through CONAFOR.

Component 1A: Development of financing mechanisms from water users

81. One of the Project's principal objectives was to develop local payment mechanisms that would complement payments made by the national program with federal financing. The Project had two complementary strategies to pursue this objective: (1) targeted efforts to develop local payment mechanisms in promising areas (*áreas promisorias*, or APROMSAs), and (2) development of a matching funds mechanism under which CONAFOR and local service users would share the costs of undertaking PES in given areas (see under Component 2 below).

82. **APROMSAs**. Efforts to develop local payment mechanisms, which were undertaken in cooperation with local actors, were undertaken in eight APROMSAs: five centered on areas that supply water to large urban centers (Coatepec, Colima, Valle de Bravo, Monterrey, and Saltillo); two centered on coastal tourism centers (Cancún and Huatulco); and one on several watersheds with multiple users (El Cielo-Ciudad Victoria). Demand studies were undertaken for each APROMSA, and they were then followed by targeted studies (e.g. to identify key sources of erosion in Valle de Bravo), and by the development of management plans. These efforts progressed slowly, in part because the approach of building each step on the results of prior steps fit poorly with CONAFOR's budgetary cycle. Nevertheless, by end of project efforts were well advanced in Colima, Copalita-Huatulco, and Valle de Bravo. Beginning in 2009, efforts in APROMSAs were gradually merged into the *Fondos Concurrentes* program (see below) and the Special Programs (see under Component 2).

83. *Fondos Concurrentes.* This effort is part of Component 2.2, but is discussed here as it is closely related to the efforts to develop new financing from water users. The PAD had proposed the development of a Matching Fund that would provide time-limited support to local mechanisms program which would provide initial matching funds to financing mechanisms based on local demand (whether channeled through the PSAH/CABSA or through stand-alone mechanisms) to help spur their development and overcome initial resistance due to weak data and/or unfamiliarity with the approach. This specific approach proved impossible to implement due to legal constraints. Instead, efforts focused on a second approach, initially intended to complement the first, of sharing PES costs in specific watersheds with local service users. This program was launched in 2008, initially on an ad hoc basis and then under a specific *lineamiento*. By

project completion, 21 such agreements were in place, increasing the net area under conservation by the PSAB by over 54,000 ha. Although these agreements still account for only a small part of the overall program, they are expected to increase rapidly in the near future.

Subcomponent 1B: Development of financing mechanisms from biodiversity users

84. The aim of this subcomponent was to develop financing mechanisms based on local and global biodiversity benefits. The primary focus was on the development of a biodiversity endowment fund to capture and channel payments for biodiversity conservation from the global community. The subcomponent also included support to efforts to develop financing mechanisms based on the local, nature-based tourism industry in some of the APROMSAs.

85. Biodiversity Endowment Fund. The Fondo Patrimonial de la Biodiversidad (FPB) was established within the Mexican Forestry Fund on October 16, 2008, with an initial capital of US\$5 million from GEF and a matching amount from the Mexican government; this was then complemented by an additional US\$5 million from GEF following the restructuring of the Project, and corresponding amount from the Mexican government. As had been agreed, the FPB was not used during the lifetime of the Project, to allow its capital to begin growing by re-investing initial returns. As a result, the FPB had about US\$21.5 million in its endowment at project completion. Based on this endowment, the FPB is expected to allow an additional 22,000 ha to be conserved (assuming a 5% average return, 15% administrative costs, and average payments of MXP 512/ha/yr). A convocatoria for initial payments financed by the FPB was issued in late 2011. A strategy to further capitalize the fund was approved by FPB Technical Committee in February 2011; it focuses on (1) using public sources and international donors as sources of endowment capital, and (2) attracting complementary private sector funding by focusing on specific biological corridors.

86. **APROMSAs.** Efforts to attract financing from local biodiversity users such as nature-based tourism industry in the APROMSAs did not bear fruit. This is not surprising, as the effort was always understood to be a difficult one. Worldwide, there are only a handful of cases of such payments (compared to hundreds of cases of payments by water service users). However, two agreements have been signed under the *Fondos Concurrentes* program to protect important biodiversity areas: in the Mariposa Monarca and Sierra de Zapalinamé reserves.

Subcomponent 1C: Development of financing mechanisms from carbon users

87. The aim of this subcomponent was to strengthen CONAFOR's ability to promote land use change projects that sequester or conserve carbon in forest and agro-ecosystems while also promoting biodiversity conservation and poverty alleviation. The subcomponent supported the development of 106 carbon sequestration project proposals, of which 53 were submitted to potential buyers via PRONATURA. Only one has found buyers to date (SAO de Oaxaca, covering 2,973 ha with a planned sequestration 35,000 tCO2e/yr); but others are currently under negotiation.

Component 2: Developing and Strengthening PES Delivery Mechanisms

88. The objectives of this component were to strengthen the existing PSAH and CABSA delivery mechanisms and to support the development of new, stand-alone delivery mechanisms for local PES markets.

Subcomponent 2A: Strengthening existing PES programs

89. *Improving efficiency.* This subcomponent helped CONAFOR improve the efficiency of the PES program by supporting the development of revised operating rules for the PSAH and CABSA programs to convert them from their one-size-fits-all methodology to a targeted and differentiated approach. These improvements were introduced gradually throughout the course of the Project, and were further refined in each subsequent year. Specific improvements introduced under the project included:

- Unifying the previously separate PSAH and CABSA programs into the PSAB program, itself part of CONAFOR's *ProÁrbol* Program.
- Introducing prioritization criteria (*criterios de prelación*, including deforestation risk, location in hydrologically or biologically important areas, poverty of applicants). Rather than being accepted on a first-come, first-served basis, applications are ranked and then accepted according to their score until the available budget is exhausted. As a result, the quality of applications increased substantially. By project completion, 90 percent of PES contracts were in priority areas.
- Introducing region-specific technical guidelines for participants, removing the requirement for participants to prepare their own management plans in regions for which guidelines exist.
- Differentiating the payments offered based on local conditions. Payments were initially uniform nationwide, except for a small premium for cloud forests. Beginning in 2010, a new payment grid was introduced, with payments depending on the type of forest ecosystem and the risk of deforestation.
- A series of Special Programs (*Programas Especiales*) was introduced beginning in 2010 to better address the needs of specific areas selected for their social and environmental vulnerability and/or climate change mitigation and adaptation potential. In these programs, PES is used in coordination with other instruments. Two groups of *Programas Especiales* have been developed to date, a first group focusing on restoration of ecosystems in degraded areas along the central volcanic arc, and a second group focusing on combined restoration and conservation in coastal watersheds and other areas with high deforestation rates. The development of *Programas Especiales* was not specifically supported by the Project, but was undertaken by CONAFOR based on its experience and lessons learned from the Project.

90. *Improving monitoring.* This subcomponent helped improve monitor of compliance by participants. Audits confirm that the compliance monitoring system is functioning effectively. It also supported the development of a system to improve monitoring of the impact of the program on environmental services; however, this system was not yet operational at project completion.

Subcomponent 2B: Support to the development of stand-alone local PES programs

91. The sub-component also supported the development of stand-alone PES mechanisms where local conditions require arrangements that differed from arrangements elsewhere. Four such mechanisms emerged. In the event, most local users opted to contract CONAFOR to undertake monitoring and make payments through the *Fondos Concurrentes* program, rather than developing their own arrangements, as this is easier and cheaper. However, four developed their own capacity to make payments and monitor compliance (SAS Boca del Río-Veracruz, FACES Sinaloa, Irritila, and Pixquiac). The Project assisted these efforts with technical assistance, workshops, and targeted studies (e.g. study of critical areas in the watershed of Sinaloa dam).

Subcomponent 2C: Establishing matching funds mechanism for local financing mechanisms

92. See discussion under Component 1A above.

Component 3: Supporting Environmental Service Providers

93. This component focused on removing obstacles that may prevent rural communities from participating either in national PES programs or local PES mechanisms, with a particular focus on problems faced by poor and/or indigenous communities.

Subcomponent 3A: Community Organization and Capacity Diagnostic

94. CONAFOR carried out capacity diagnostics of 454 participating communities to evaluate the level of community organization and capacity to participate in the PES program. A gap analysis of organization in indigenous communities was carried out to identify obstacles to these communities participating in the program (e.g. language) and to help put in place assistance to address those obstacles.

Subcomponent 3B: Community promoters

95. Community Promoters with site-specific knowledge were to have been recruited and trained to either provide TA to communities or identify technical assistance needs and help contract technical assistance services, but this was not possible due to legal issues with contracting them with public funds. Some such promoters were hired under *Fondos Concurrentes* agreements. (GEF budget for this subcomponent was reallocated to the FPB in 2010.) CONAFOR compensated for the lack of Community Promoters by increasing technical capabilities and diversification of its Regional Promoters and APROMSA coordinators through for example, training in communications, gender, etc. and assigning to them most of the responsibilities that the Community Promoters were to carry out.

Subcomponent 3C: Organizational assistance

96. CONAFOR's regional promoters and communities worked together to facilitate community organization for those *ejidos* and communities that either because of lack of organization or legal status might have been precluded from participating.

Subcomponent 3D: Technical assistance

97. CONAFOR, through its Regional Promoters assisted in identifying organizations able to provide assistance in community organization and identification of capacities needed to participate in PES programs and then contracting them either directly or by providing grants to the communities to contract the assistance on their own. In all, CONAFOR contracted assistance for 555 communities, and provided funding to 671 communities to contract the assistance on their own.

Component 4: Payment to Service Providers

98. This component was to channel payments for water, biodiversity, and carbon service contracts, initially under the program rules in place at project start, and then under the gradually improved rules introduced over time thanks to the activities supported under Component 2.

99. The total payments to service providers over the period from June 2006 to June 2011, for each type contract, was as follows:

	Number of	Total payments	Total area
Type of Contract	contracts	(MXP)	(<i>ha</i>)
Water	2,926	3,692,783,410.83	1,844,393
Biodiversity	2,862	1,514,498,630.26	730,512
Total	5,809	5,350,812,484.37	2,632,262

Note: Within these totals, payments under the 21 *Fondos Concurrentes* agreements signed by EOP totaled MXP143,530,443.28 and covered 57,357 ha. Since EOP, 25 additional *Fondos Concurrentes* agreements have been signed by EOP, with a total budget of MXP83,773,068.82 and covering 61,380 ha.

Component 5: Project and Program Management

100. This component aimed to support new and existing institutional entities and mechanisms at the national and regional level for overall project coordination and supervision and would help strengthen the effectiveness and quality of project operations. A strong monitoring and evaluation mechanism would be in place to measure performance at various project milestones.

Subcomponent 5A: Human Resources

101. The Project was implemented through CONAFOR's existing structure, complemented by contracted and consultant staff as needed. In all, CONAFOR contracted an additional 87 persons on a term basis, and 11 persons on a consultant, as needed, basis for its regional offices. These persons were hired to perform duties of Regional Promoters.

Subcomponent 5B: Equipment

102. Equipment procured by the Project included laptops, cameras, and a projector.

Subcomponent 5C: Planning

103. The Project was carried out in accordance with an Operations Manual. The Manual set forth the routine planning documents that were to be prepared, including the

yearly implementation plans (*Planes Anuales de Implementación*), quarterly physical and financial reporting, and semi-annual reporting of activities that were to feed lessons into future activities. Instead of generating additional reports, CONAFOR relied on routine reporting required by SEMARNAT and SHCP, and on ad hoc reports carried out by external parties for purposes of fulfilling the requirement for semi-annual reporting on lessons.

Subcomponent 5D: Project and program monitoring and evaluation

104. CONAFOR put in place an effective system for project and program monitoring. CONAFOR uses three main monitoring tools: (a) a Management and Information Analysis System (SIGA II) that tracks the management of applications payments allocated under the programs; and (b) the *Sistema Único de Rendición de Cuentas*, and (c) a Payment System that tracks and controls the payments to beneficiaries of CONAFOR's programs. These systems can be disaggregated to the minimum unit (community/ejido/private land owner) or aggregated by state and municipality. The systems allow observing information about gender, indigenous groups and the number of beneficiaries within an *ejido* or community. For the national PES program, CONAFOR designed and implemented a *Sistema de Información y Seguimiento de Servicios Ambientales del Bosque* (SISSAB). SISSAB provides a single system for monitoring PES information, accessible to both CONAFOR's central and state offices. CONAFOR is incorporating information on *Fondos Concurrentes* under this system.

CONAFOR has access to databases of other agencies to monitor five criteria, 105. including: (a) over-exploited aquifers (CNA); (b) Index of Deforestation Risk (INE); (c) Human Development Index, by municipality (CONAPO); (d) National Protected Areas (CONANP), and (e) Priority Areas for Bird Conservation (CONABIO). Monitoring of forest cover is done yearly, through SPOT satellite image analysis and random site visits on a selected number of enrolled properties. CONAFOR has arranged for training of its technical personnel that processes satellite images through agreements with different universities. At the end of five years, monitoring of forest cover had been concluded on 100 percent of properties. If land clearing is detected, current and future payments under the respective contract are cancelled, and the community or ejido is withdrawn from the program. During implementation, CONAFOR found only about 2.5 percent of noncompliance with their contract through their monitoring efforts (mostly service providers that no longer desired to participate, fires, or changes in land use). CONAFOR carried out a survey of environmental services providers to analyze the contracts' socioeconomic and cultural impacts on the beneficiaries. A total of 430 beneficiaries were surveyed and the information is being processed for analysis.

106. Impact monitoring is currently ongoing through several initiatives. The first is a study of the socio-economic impact of PES on the environmental service providers, and an analysis of the effectiveness of the program as a tool against deforestation. Another study is focusing on 4 basins supported by *Fondos Concurrentes* (Coatepec, Veracruz, Mariposa Monarca Estado de México-Michoacán, Ríos San Juan y Nazas, Coahuila; Taxco, Guerrero). The objectives of this study are to: (a) establish a baseline; (b) design an eco-hydrological monitoring system; and (c) carry out a diagnostic of institutional capacities for establishing this monitoring system. Finally, a broader study is establishing baselines for several indicators relating to environmental service provision, including: (a)

hydrological services (b) biodiversity; and (c) the socio-cultural impacts on the service providers. The study will design an automated impact monitoring system for use by CONAFOR in a routine manner. The system would provide periodic information to analyze the impact of the various programs.

107. CONAFOR prepared a Communications Strategy for the Project to disseminate the Project and the concept of PES among users and providers of environmental services. CONAFOR contracted a consultant to develop key messages, communication workshops and products such as electronic publications. To reach out to indigenous communities, CONAFOR contracted a specialist in indigenous communications to develop the Program of Indigenous Communications. This Program developed tools geared to create a greater understanding of the concept of PES, the value and importance of PSA, and *Fondos Concurrentes* in indigenous communities. Products developed included video documentaries, pamphlets, etc. These materials are being translated into indigenous languages.

Results (Intermediate Outcome) Indicators, by Project Component					
Indicator	Baseline	Original Target	Actual Value at		
			Completion		
Component 1: Developi	ing Sustainable	Financing Mechanis	ms: Financial		
Mechanisms for Water	Biodiversity a	and Carbon have been	n created		
Financing	0 sites	6 sites	<i>Exceeded.</i> Financing		
mechanisms based on			mechanisms are in place		
local demand are in			based on local demand		
place in at least six			through the <i>Fondo</i>		
sites			<i>Concurrentes</i> program in		
			21 sites		
An endowment fund	None	Fund established by	<i>Exceeded.</i> The Fund was		
for biodiversity		Year 3, by $2/15/2000^{14}$	established on 10/16/08,		
conservation has been		2/15/2009	and has been capitalized in		
established to provide			the amount of US\$21.5		
long-term funding for			million		
significance					
A strategy has been	Nona	Stratagy dayalanad	Completed Strategy		
A sublegy has been developed for	INUITE	and adopted by	finalized in December		
capitalizing the		Vear 3 by	2010 and adopted in 2011		
endowment fund		2/15/2009	2010 and adopted in 2011		
A biodiversity	Baseline	Funding window	Completed. The		
conservation funding	Dusenne	established by Year	biodiversity window was		
window has been		2. by $2/15/2008$	established in FFM in		
established within		, , , , , , , , , , , , , , , , , , , ,	November 2007		
FFM					
Component 2: Develop	ing and Streng	thening PES Delivery	Mechanisms: Existing		
PES Program have bee	en strengthene	d, Local Stand-alone	PES Programs have been		
established and a Mate	ching Fund pro	ogram will be operati	ng		
Operating rules for the	Baseline	Operating rules	Completed. Differentiated		
PSAH and CABSA		modified	Operating Rules were		
programs are modified			introduced in 2010 that		
to a more targeted,			take into account type of		
differentiated			ecosystem and risk of		
payments, in which			deforestation, and are now		
the definition of			being updated yearly in		
eligible areas and the			view of experience		
offered is undertaken					
on a regional rather					
than national basis					
man national Dasis					

¹⁴ The Project Appraisal Document (PAD) presented Target Dates in terms of the Project Year. For purposes of comparison, these targets have been translated into dates, taking the date of the PAD as the base.

Monitoring (compliance and impacts) systems of PSAH and CABSA programs are improved and implemented and audits confirm that compliance monitoring functions	Baseline	Improved monitoring system in place	<i>Completed</i> (compliance monitoring) <i>and</i> <i>Underway</i> (for impact monitoring). Compliance monitoring systems were gradually improved throughout implementation; audits have confirmed that compliance monitoring is		
effectively			functioning well; impact monitoring systems are being developed		
Substantial increase in the efficiency with which PSAH/CABSA funds are used in at least 75% of area contracted in priority areas	One-size- fits-all approach that fails to effectively target areas at higher risk of deforestation	Targeted and differentiated application (regionally and possibly by land use) of national programs, to provide more benefits at lower cost	<i>Exceeded.</i> 90% of area contracted in priority areas; wider dissemination to potential service providers regarding priority areas has resulted in a reduction of applications rejected from 12% in 2008 to just under 2% in 2011		
Appropriate contracting, monitoring and payment systems have been developed and under implementation in at least 2 watersheds to run stand-alone PES Program by completion	None	Stand-alone PES Program under implementation in at least two watersheds	<i>Exceeded.</i> Stand-alone PES Program under implementation in four watersheds		
Component 3: Supporting Environmental Service Providers: Technical and Organizational Assistance					
Community Promoters with site-specific knowledge have been recruited and trained to either provide TA or identify TA needs and help contract TA services	None	Community promoters provide or help contract TA	Substantially Completed. Community promoters were not hired in most cases. The capacity of CONAFOR's Regional Promoters was strengthened to provide this assistance.		
80% of service providers are satisfied	None	80% service providers satisfied	Substantially Completed. Service providers were		

with the timeliness			satisfied with the
and quality of TA			assistance: 78% of 414
			Environmental Service
			Providers surveyed
			considered the TA
			received as -excellent" or
			- g ood";
At least 75% of PES		75%	<i>Exceeded.</i> Current
contracts in pilot sites			Operating Rules include a
are for <i>ejidos</i> ,			200 ha limit for private
communities and			property; at present 100%
small individual			of PES contracts comply
landholders (with less			with this requirement
than 200 ha)			
Component 4: Paymen	ts to Service Pi	roviders	
FFM will continue to	US\$30	US\$30 million/year	<i>Exceeded.</i> FFM has
receive at least US\$30	million/year		received over US\$100
million per year			million per year since
			2007
Participation of ejidos	None	50% over national	<i>Exceeded.</i> 63% of area in
in pilot sites increased		average	national program
by 50% over the			corresponds to <i>ejidos;</i>
national average			64% of area in pilot areas
			corresponds to <i>ejidos</i>
Component 5: Project	and Program N	Ianagement	
CONAFOR project	Few staff in	Staff in place	<i>Completed.</i> Staff and
staff, including	place		budget in accordance with
regional promoters, in			a program of US\$30
place and functioning			million per year;
at all times during the			additional staff and budget
project with sufficient			will be needed given the
capacity to carry out			increase in funding
all project activities			available; on the positive
			side, whereas 80% of
			CONAFOR's staff were
			consultants at project start,
			at completion, 80% were
			permanent staff.
Annual performance	None	Annual	Completed. Performance
evaluations of			evaluations conducted
CONAFOR project			annually for project
staff to be conducted			contracted staff and semi-
			annually for permanent
			staff
A project management	None	MIS functioning	Completed. The Project's
1	1		1

be installed and functioning during the life of the Project			into the PSAB MIS
Quarterly physical and financial status reports prepared and submitted to the Bank	None	Quarterly reports	<i>Completed.</i> Submitted quarterly
Semiannual documents on lessons learned and policy implications prepared to coincide with supervision missions	None	Semiannual documents	Substantially Completed. Lessons learned and policy implications were discussed during supervision missions but no formal reports were prepared internally because of insufficient CONAFOR staff and resources; various studies were commissioned from outside bodies including regular evaluations by CONEVAL.

Annex 3. Economic and Financial Analysis

108. The PSAB program currently covers about 2.2 million ha. It operates in priority areas selected for their environmental, hydrological, and biodiversity value. These are located throughout the country; the 2.5 million ha enrolled in the PSAB program at EOP are distributed across 32 states. The average size of contracts with forest communities in 2010 was about 1,000 ha. Participating landholders are paid to conserve existing forests. 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. Since 2009, CONAFOR has been implementing a program of matching funds (*Fondos Concurrentes*), in which it pays up to 50 percent of the cost of conservation payments in cooperation with local actors, many of them local water users. These agreements currently increase the net area under conservation by the PSAB by over 50,000 ha.

109. *Costs.* The costs to Mexico of undertaking the PSAB include (i) the opportunity costs of foregone land uses, in cases where land users would indeed have undertaken other land uses; (ii) any management costs involved in complying with PSAB contracts; and (iii) the transaction costs of the PES program, including FONAFIFO's administrative costs and costs borne by program participants.¹⁵ A crucial point here is that the payments themselves are not an economic cost, though they are a financial cost to CONAFOR.

- Opportunity costs. An INE study prepared during preparation of the PSAB program estimated the average opportunity costs to be about US\$40/ha for maize producers and US\$70/ha for livestock producers, but with substantial numbers of producers having lower opportunity costs (Jaramillo, 2002). The high demand for participation at the initial payment level of US\$30/ha confirmed this. As participation is voluntary, it is safe to assume that those who choose to participate have opportunity costs, plus any necessary management costs and transaction costs borne by participants (see next bullet), lower than the offered payments, which until 2010 were of about US\$30/ha/yr (US\$40/ha for cloud forests). Indeed, there is reason to believe that the opportunity costs are zero in at least part of the area enrolled, as there is reason to believe that some areas would have been conserved even in the absence of the PSAB program (see below).
- Management costs. Participants must undertake a variety of activities in conserved forests. As noted, these costs and opportunity costs together are almost certainly less than payments for participating landholders.
- *Transaction costs.* CONAFOR's own costs are limited to 4 percent of payments, or about US\$1.60/ha/year. It is likely, however, that some additional costs are also borne under other parts of CONAFOR's budget. To allow for this, we

¹⁵ For completeness, one should also include (iv) any deadweight losses arising from the way in which financing is generated, and (v) any induced costs resulting from general equilibrium effects (for example, because of reduced agricultural production). No data are available on these costs, but a recent study of Costa Rica found that country's PSA program (which is proportionally much larger than Mexico's) to have negligible general equilibrium effects (Ross and others, forthcoming).

round up administrative costs to US\$2/ha/year. These costs apply irrespective of whether the land use change is additional or not.

110. The *upper bound* of the costs of PSAB is thus about US\$32/ha/year. As landholders with lower opportunity costs have the greatest incentive to participate, it is likely that per hectare costs are lower in much of the contracted area. Indeed, in some areas with low or no additionality, costs may be little more than CONAFOR's own transaction costs.

111. *Benefits*. From an economic perspective, the PSAB program's benefits to Mexico depend on:

- The degree to which it succeeds on avoiding deforestation or degradation that would have occurred in the absence of the program (additionality). To the extent that the PSAB pays to conserve forests that would have been conserved anyway, no net benefits are generated.
- 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.

112. Additionality. Two studies have examined the extent to which PSAB has reduced deforestation. Alix-Garcia and others (2010) find a small positive effect among participants enrolled in 2004, with considerable heterogeneity across regions and types of properties (Alix-Garcia and others, 2010). A separate study by INE finds that deforestation among PES recipients fell from 1.6% to 0.6% over the years 2000 and 2007 (Muñoz Piña, 2011).¹⁶ As the PSAB program has sought to target areas at higher risk of deforestation in recent years, its effectiveness in reducing deforestation is likely to have increased over time.¹⁷

113. *Service generation* - *Water*. The primary benefit sought by the PSAB program is the preservation of downstream water services. Beyond the additionality issue already discussed, its impact in this regard depends on two factors:

- The extent to which PSAB is spatially targeted to hydrologically important areas. Appropriate land uses will only help if they are in the right place, as water services, by their nature, are highly site-specific. PSAB has made considerable efforts in this regard, through the definition of eligible areas (which are based primarily on hydrological criteria) and the use of prioritization criteria. Thanks to these efforts, the share of PSAB area in watersheds with over-exploited aquifers quadrupled between 2003 and 2006, for example.
- The extent to which forests generate the desired services. To date, the PSAB has not undertaken any monitoring on its impact on the desired water services.¹⁸ In general, forest conservation as undertaken under the PSAB is

¹⁶ Note that parcels participating in the PSAB were only enrolled for an average of 2.4 years during this period, as the program only began in 2004.

¹⁷ According to INE's estimates, average deforestation from 2000 to 2007 in a random sample of 160,000 forested parcels was 3.7%, while average deforestation among PSAB recipients in the sample would have been only 1.6%. Thus, at least through 2007, high deforestation risk areas were under-represented in the program.

¹⁸ A monitoring system has been designed and is being put in place, but is not yet operational.

likely to have its greatest positive impact on water quality¹⁹, thus reducing the cost of treatment downstream and/or avoiding the siltation of reservoirs. With the possible exception of cloud forests, forests would generally tend to reduce total water availability.²⁰

114. The large number of *Fondos Concurrente* agreements signed since 2009 with water service users, also provide *prima facie* evidence that these water users perceive the benefits of conservation to exceed the costs, or they would not commit their own resources to conservation. Although the actual magnitude of water service benefits cannot be quantified²¹, contracts that are in both high hydrological value areas and high risk of deforestation areas are most likely to have high value. Current targeting has improved substantially since the beginning of the program, but there remains room for improvement.

115. Service generation - Biodiversity. Biodiversity benefits are not easily quantifiable. The project made substantial efforts to improve the targeting of PSAB to areas of biodiversity importance, through the definition of eligible areas and the introduction of prioritization criteria; in this way, contracts issued under the program's hydrological window were also targeted to areas of biodiversity importance. At EOP, 521 contracts covering 353,340 ha were located in the buffer zones of protected areas and within the Meso-American Biological Corridor.²²

- The Biodiversity Endowment Fund (FPB) will further increase the area of biodiversity importance under conservation. At EOP, the FPB had about US\$21.5 million in its endowment. Based on this endowment, the FPB is expected to allow an additional 22,000 ha to be conserved (assuming a 5% average return, 15% administrative costs, and average payments of M\$512/ha/yr). These payments will be targeted to conserving globally significant biodiversity in the buffer zones of protected areas and the corridors that connect them, in cases where no other funding sources are available. A *convocatoria* for initial payments financed by the FPB was issued in late 2011.
- Several *Fondo Concurrente* agreements are adding to the areas of biodiversity importance under conservation. An agreement with the Mexican Fund for Nature Conservation to protect the Monarch Butterfly Biosphere Reserve was among the first to be signed under the *Fondo Concurrente* program, in 2008. Under this agreement, 10,245 ha in the Reserve's buffer area will be conserved for a ten-year period, considerably extending the area under conservation and guaranteeing funding for a longer period. Other *Fondo Concurrente* agreements

¹⁹ Manson (2007) found that the physical and chemical properties of water have improved in watersheds in the states of Veracruz and Mexico where PSAB has been active.

²⁰ Recognizing the importance of cloud forests, the PSAB has since its inception paid more for their conservation than for the conservation of other forests.

²¹ Adger and others (1995) estimated the average Total Economic Value (TEV) of Mexican forests to be about US\$80/ha (or about US\$113/ha in 2010 dollars), a large portion of which were watershed benefits. Such estimates are suggestive, but provide a poor guide to conservation decisions as (aside from the methodological and data difficulties of valuing many aspects of forest TEV) the actual value of a given hectare of forest can differ substantially from the average, and because the actual loss depends on the value of the land use that would replace the forest.

²² Based on a GIS analysis of PSAB contracts signed between 2006 and 2010 that were located within a 3km buffer around national protected areas and/or within the Meso-American Biological Corridor.

in areas of biodiversity importance include agreements to conserve 1,675 ha in Chipinque Ecological Park; 2,848 ha in the Sierra Gorda Nature Reserve; 474 ha in the Zapalinamé Nature Reserve;. Other *Fondo Concurrente* agreements are helping conserve areas in the buffer zones of the Cofre de Perote National Park, the Pico de Tancitaro, and the Tehuacán-Cuicatlán Biosphere Reserve. Thus *Fondos Concurrentes* has already resulted in the conservation of areas of biodiversity importance equivalent to about two-thirds of the area that will be financed by the FPB.

Service generation - Carbon. Carbon sequestration was an initial objective of the 116. PSA-CABSA program, but the focus shifted to supporting the development of carbon sequestration projects that would sell emissions reductions on the voluntary market or through the Clean Development Mechanism (CDM). Under this approach, Subcomponent 1C supported the development of 106 carbon sequestration project proposals, of which 53 were submitted to potential buyers via PRONATURA. Only one has found buyers to date (SAO de Oaxaca, covering 2,973 ha with a planned sequestration 35,000 tCO₂e/yr); but others are currently under negotiation. Although not specifically aimed at sequestering carbon, PSAB forest conservation activities would also result in carbon sequestration to the extent that they reduced deforestation. INE estimated that about 3 million tCO_2 were avoided thanks to avoided deforestation in its sample (taking into account carbon stocks in different kinds of forests). Adjusting for the fact that participants were only enrolled for 2.4 of the 7 years covered by the analysis, INE estimates avoided deforestation would have been twice as high for PSAB recipients over the entire length of a 5-year contract. Averaging the resulting reduced emissions over all PSAB recipients gives an average reduction of about 3tCO₂/ha over all participants. If these emissions reductions could be sold to a future REDD market, they would be worth about US\$6.5/ha (assuming a carbon price of US\$5/tCO₂, based on the implicit value per ton under the recent agreements Norway signed with Brazil and Guyana, and assuming that 20 percent is spent on transaction costs²³), or about US\$0.44/ha/yr. Although these benefits are clearly low on average²⁴, there is substantial scope for improvement, some of which is likely to have already occurred through the introduction of prioritization criteria. According to INE's estimates, emission reductions in the areas where deforestation was effectively avoided ranged from about 113 tCO₂/ha to over 200 tCO₂/ha, with an average of 170tCO₂/ha. Improvements in targeting thus could easily result in much higher emission reductions.

117. *Net benefits*. Without better estimates of benefits, it is impossible to estimate the current net benefits of the PSAB program. However, with an *upper bound* on its cost

²³ The transaction costs here are those of participating in the REDD mechanism (for example, to cover the cost of MRV systems), and not those of contracting with participants, already discussed above. As Mexico (and other countries) are still developing their REDD strategies, it is impossible to know at this stage how high these transaction costs might be. The Scolel Té carbon project in Chiapas (which sells to the voluntary carbon sequestration market) has transaction costs of about 40 percent (Tipper, 2002), but a nationwide program would probably have much lower costs because of economies of scale.

²⁴ It should be noted that these estimates are based on data up to 2007, and thus on data from participants selected mostly prior to the introduction of prioritization criteria. More recent participant groups are likely to have higher average emission reductions, as deforestation risk is one of the prioritization criteria.

being only US\$32/ha/year, while it could be as low as US\$2/ha/year, it is clear that relatively modest average levels of hydrological and other benefits would be sufficient to justify the program.

118. 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). 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. The PSAB 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.²⁵ In addition to financial benefits, participating communities are also thought to have benefitted through improvements in social capital.

²⁵ There is some concern, however, that benefits and costs may be distributed un-evenly within participating communities. Ultimately, this is an internal matter for these groups; however, the program seeks to minimize the risk of such problems by requiring applications to participate to be approved by the community's assembly. As an additional measure, new contracts will also make payments conditional on the assembly approving a plan for the use of revenues received.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

Names	Title	Unit	Responsibility/ Specialty
Lending			-
Stefano P. Pagiola	Senior Environmental Economist	ENV	Environmental Economist
Ricardo Hernandez Murillo	Senior Environmental Specialist	LCSEN	Environmental Safeguards
Dinesh Aryal	Senior Operations Officer	LCSEN	Operations
Alejandro M. Deeb	Sr. Hydrologist	LCSEN	Hydrologist
George Campos Ledec	Lead Ecologist	LCSEN	Ecologist
Peter M. Brandriss	Sr. Program Assistant	LCSEN	Team Assistant
John Kellenberg	Sector Leader	LCSEN	
Gunars Platais	Senior Environmental Economist	LCSEN	Environmental Economist
Monique Pelloux Patron	Team Assistant	LCSES	Team Assistant
Blanca Alonso	Team Assistant	LCSES	Team Assistant
Mark A. Austin	Senior Operations Officer	LCSER	Operations
Juan Martinez	Sr Social Scientist	LCSEO	Social
Martha Molares-Halberg	Lead Counsel	LEGLA	Counsel
Daniel Boyce	Financial Management Sp.	LCOAA	Financial Management
Victor Manuel Ordonez Conde	Financial Management Sp.	LCOAA	Financial Management
Efraim Jimenez	Procurement	LCOPR	Procurement
Carmen Machicado	Operations Officer	LCSPS	Operations
Edgar Ortiz	Sr. Forestry Specialist	Consulta nt	Forestry
Maria Clara Mejía	Social Specialist	Consulta nt	Social
		Consulta	
Julio Cordoba	Sr. Institutional Specialist	nt Consulto	Institutional
Bernardo Madriz	Specialist	Consulta nt	Institutional Development
Juan Carlos Serrano-		III	Financial
Machorro	Financial Management Specialist	LCSFM	Management
Kenneth M. Chomitz	Senior Adviser	IEGDG	Ecosystems Services

(a) Task Team members

Supervision/ICR

Adriana Moreira	Senior Environmental Specialist	LCSEN	Task Team Leader
		Consulta	
Alejandro M. Deeb	Consultant	nt	Climate Change
Ann Jeannette Glauber	Senior Environmental Specialist	LCSEN	Task Team Leader
Anna Corsi	Land Administration Specialist	LCSAR	Land Administration
Dinesh Ayal	Senior Operations Officer	LCSEN	Operations

Dmitri Gourfinkel	Financial Management Specialist	LCC1C	Financial Management
		Consulta	
Efraim Jimenez	Consultant	nt	Procurement
Gabriel Penaloza	Procurement Analyst	LCC1C	Procurement
Gabriela Arcos	Environmental Specialist	LCSEN	Protected Areas
George Campos Ledec	Lead Ecologist	LCSEN	Biodiversity
Gisela Campillo	Jr Professional Officer	LCC1C	Operations
		Consulta	
Jean-Claude Balcet	Consultant	nt	Forestry
Juan Carlos Serrano-			Financial
Machorro	Financial Management Specialist	LCC1C	Management
Juan Martinez	Sr Social Scientist	LCSEO	Safeguards
		Consulta	
Karen Anne Luz	Consultant	nt	Biodiversity
Maria E. Castro-Munoz	Sr Social Specialist	LCSOS	Safeguarad
Mark A. Austin	Senior Operations Officer	LCSER	Task Team Leader
Marta Elena Molares-			
Halberg	Lead Counsel	LEGLA	Legal issues
Monique Pelloux Patron	Program Assistant	LCC1C	Team assistant
Peter M. Brandriss	Operations Analyst	LCSEN	Operations
Ricardo Hernandez Murillo	Senior Environmental Specialist	LCSEN	Safeguards
			Environmental
Stefano P. Pagiola	Senior Environmental Economist	ENV	Services
Victor Manuel Ordonez			Financial
Conde	Finance Officer	LCOAA	Management
		Consulta	
Suzana de Campos Abbott	Consultant	nt	Operations/ICR

(b) Staff Time and Cost

		Staff Time and Cost	(Bank Budget Only)	
Stage of Project Cycle		No. of staff weeks	USD Thousands (including travel and consultant costs)	
Lending				
	Total	42.0	5 \$ 107,624.93	
Supervision/ICR				
	Total:	159.3	6 \$589,257.01	

Annex 5. Beneficiary Survey Results

No beneficiary survey was conducted.

Annex 6. Stakeholder Workshop Report and Results

A project stakeholder workshop was held on November 15 and 16, 2011 in Mexico City. The development of the workshop and the main results are described as follows:

Workshop objectives:

The objective of the workshop was to share lessons and strengthen the Learning Community of Payment for Environmental Services (CAPSA, for its initials in Spanish), created within the Project and which will continue to function after project closing. In this second participatory workshop the stakeholders worked together to: 1) discuss the results and lessons learned from the Payment for Environmental Services (PES) Project, 2) discuss the different institutional efforts in Mexico to promote local mechanisms for PES, and 3) discuss local schemes for PES at the international level.

Participants:

A total of 126 representatives from civil society organizations, governmental agencies, academia and the private sector participated in the event, which functioned also as an environment for networking and exchanging experiences. Many participants already have years of collaboration with CONAFOR on the *fondos concurrentes* program, while several others are currently building this connection.

Definition of the Learning Community

Working through a network is a process in which two or more organizations or individuals collaborate to reach common goals. Learning communities are a type of network that seeks to advance knowledge about a specific region or theme. Learning communities are distinguished from networks in that they specifically seek to establish long-term learning processes that advance and strengthen innovation, capacity development, practices, and links between actors involved in distinct areas. Participants of the CAPSA Learning Community defined that the objective that unites them is to strengthen the capacities of the members to improve performance in PES through the interchange of experiences and lessons learned. CAPSA was created under the Mexico Environmental Services Project and is becoming increasingly important as a long-term learning environment, which will continue its activities beyond the life of the project.

Mission

The Payment for Environmental Services Learning Community (CAPSA) that seeks to bring together actors and organizations that contribute to the conservation and restoration of environmental services in Mexico to foster the creation and strengthening of local mechanisms for the payment for environmental services through the exchange and development of capacity and learning within a community environment.

Vision

CAPSA seeks to be a community that shares social, intellectual, political and technical capital with the objective of achieving the significant strengthening of capacities that

enable the efficient and integrated development of PES schemes in the different regions of the country.

Objectives of the PES Community

CAPSA has the following objectives:

- Foster the exchange of lessons learned from payment for environmental services (PES) initiatives and the creation of local mechanisms for PES.
- Strengthen technical and institutional capacities of the institutions that promote the creation of local mechanisms.
- Disseminate the experiences of PES initiatives so that similar initiatives may be created in other regions of the country (and abroad), with the intention to reduce the learning curve and the costs of the learning process.
- Offer opportunities for meetings and shared learning through a strategic combination of distance learning and local attendance participatory workshops.

Next Steps:

CAPSA will continue its activities beyond the life of the Project through the dissemination of information and publications on PES on an online portal (<u>www.conafor.gob.mx/micrositios/BoletinPSA2011/index.html</u>), as well as distance learning activities and local attendance participatory workshops.

Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR

The following letter was received from CONAFOR and signed by Sofia Cortina Segovia, Manager for Forest Environmental Services, on December 7, 2011:



Periférico Poniente No. 5360 2" Piso, Edificio "B" Col. San Juan de Ocotán, Zapopan, Jalisco, C.P. 45010 Tel: 0133-37-77-70-83, www.conafor.gob.mx Correo: conafor@conafor.gob.mx

Annex 8. List of Supporting Documents

- Alix-Garcia, J.M., E. Shapiro, and K.R.E. Sims. 2010. —The environmental effectiveness of payments for ecosystem services in Mexico: Preliminary lessons for REDD."
 Paper presented at the 4th World Congress of Environmental and Resource Economists, Montréal, June 28-July 2, 2010.
- Jaramillo, L. 2004. Estimaci n del c osto de oportunidad del uso de suelo forestal en ejidos a nivel nacional. INE-DGIPEA Reportes de Investigación. México DF: INE.
- Manson, R.H. 2007. Efectos del uso del suelo sobre la provisi n de servicios ambientales hidrol gicos: Monitoreo del impacto del PSAH." México DF: INE.
- Mu oz Pi a, C. 2011. Programa de Pago por Servicios Ambientales Hidrol g icos de los Bosques." Presented at the International PES Congress, Ixtapan de la Sal, Estado de México, México, 3-5 August, 2011.
- Ross, M., B. Depro, and S.K. Pattanayak. Forthcoming. –Assessing the economy-wide effects of the PSA Program." In: G. Platais and S. Pagiola (Eds), *Ecomarkets: Costa Rica's Experience with Payments for Environmental Services*. Washington: World Bank.
- Tipper, R. 2002. –Helping indigenous farmers participate in the international market for carbon services: The case of Scolel Té." In: S. Pagiola, J. Bishop, and N. Landell-Mills (Eds.), Selling Forest Environmental Services: Market-based Mechanisms for Conservation. London: Earthscan.
- World Bank, Project Appraisal Document, Environmental Services Project, Report No. 33228-MX dated February 15, 2006.
- World Bank, Country Partnership Strategy for the United Mexican States for the Period FY08-FY13, Report No. 42846-MX dated March 4, 2008.
- World Bank, Mexico Climate Change Development Policy Loan Aide Memoires dated February 19, 2010 and October 3, 2011.
- World Bank, Environmental Services Project, Implementation Status Reports and Mission Aide-Memoires.

Annex 9. Stages of Climate Change Engagement in Mexico (Forest-related Operations are Highlighted)

	Stages of Climate Change Engagement in Mexico				
	Foundations (Before 1999)	Early Support [1999–2007)	Strengthening [2007–2009]	Consolidation [2010–)	
Knowledge Services		 LAC Region Landfill Gas Initiative (FY06) Evaluation of Energy Efficiency Initiatives (FY06) Economic Assessment of Policy Interventions in the Water Sector (FY06) 	 Carbon Finance Assistance Program for Mexico (FY09) Low-Carbon Study (FY09) Mass Urban Transport- Federal Program (FY09) 	 Social Impacts of Climate Change (FY11) MoU Subnational Climate Change (FY11) Othon P. Blanco Sustainable Development Strategy (FY11) Climate Change Public Expenditure Review (FY12) Forest Carbon Partnership Facility (FY11-13) Advisory Services under the Program on Forests (PROFOR) (FY11-on) 	
Financial Services	 Solid Waste Management Pilot Project (FY86) Urban Transport Project (FY87) Community Forestry (FY97) 	 Renewable Energy for Agriculture Project (FY99) Indigenous and Community Biodiversity Conservation Project COINBIO (FY01) Introduction to Climate- friendly Measures in Transport (FY03) Mexico Environmental Services Project (FY06) Programmatic Environment DPL I and II (FY06) 	 Climate Change DPL (FY08) Environmental Sustainability DPL (FY09) Sustainable Rural Development Grant (FY09) 	 Green Growth DPL (FY10) Adaptation to Climate Change in the Water Sector DPL (FY10) Urban Transport Transformation Program (FY10) Adaptation to Climate Change Impacts in the Coastal Wetlands (FY11) Low-carbon DPL (FY11) Social Resilience to Climate Change DPL (FY12) Forest and Climate change 	
				 SIL and FIP (FY12) Sustainable Production Systems and Biodiversity GEF (FY12) Ecosystems Adaptation DPL (FY13) 	
Convening and Coordination Services		Consolidation & Strengthening of the Mexican Office for Greenhouse Gas Mitigation (FY99)	• Preparation of the CTF Investment Plan (FY09)	 Energy-efficiency conference (FY10) Water sector events in the lead-up to COP16 (FY10) Agriculture and forestry sector events during COP16 (FY10) 	

^a Figure highlights several significant examples and does not aim to exhaustively illustrate all climate change activities

