



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Monique Barbut
Chief Executive Officer
and Chairperson

1818 H Street, NW
Washington, DC 20433 USA
Tel: 202.473.3202
Fax: 202.522.3240/3245
E-mail: mbarbut@TheGEF.org

November 24, 2009

Dear Council Member,

The World Bank as the Implementing Agency for the project entitled: ***Colombia: Mainstreaming Biodiversity in Sustainable Cattle Ranching***, has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in April 2008 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed.

We have today posted the proposed project document on the GEF website at www.TheGEF.org for your information. We would welcome any comments you may wish to provide by December 28, 2009 before I endorse the project. You may send your comments to gcoordination@TheGEF.org.

If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Attachment: Project Document

cc: Country Operational Focal Point, GEF Agencies, STAP, Trustee



REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: September 29, 2009

Re-Submission Date: November 25, 2009

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3574

GEF AGENCY PROJECT ID: 104687

COUNTRY(IES): Colombia

PROJECT TITLE: Mainstreaming Biodiversity in Sustainable Cattle Ranching

GEF AGENCY(IES): World Bank

OTHER EXECUTING PARTNER(S): Colombian Cattle Ranching Association (FEDEGAN), Center for Research on Sustainable Agricultural Production Systems (CIPAV), the Environmental and Childhood Action Fund (FPAA) and the Nature Conservancy (TNC).

GEF FOCAL AREA(S): Biodiversity, Land Degradation

GEF-4 STRATEGIC PROGRAM(S): BD-SP5, LD-SP1

NAME OF PARENT PROGRAM/UMBRELLA PROJECT: N.A

Expected Calendar (mm/dd/yy)	
Milestones	Dates
Work Program (for FSPs only)	April 2008
Agency Approval date	Dec 2009
Implementation Start	Feb 2010
Mid-term Evaluation (if planned)	Feb 2013
Project Closing Date	May 2015

A. PROJECT FRAMEWORK

Project Global Environment Objective: To promote the adoption of environment-friendly silvopastoral production systems in Colombia cattle ranching in project areas to improve natural resource management, enhance provision of environmental services (biodiversity, land, carbon and water) and raise the productivity in participating farms

Project Components	Indicate whether Investment, TA, or STA ²	Expected Outcomes	Expected Outputs	GEF Financing ¹		Co-Financing ¹		Total (\$) c=a+b
				(\$M) a	%	(\$M) b	%	
1. Improving productivity in participating cattle ranching farms in project areas, through SPS	Investment, TA and STA	National, regional and local TA providers trained in SPS implementation and management; GPEP and IPM Farmers trained in SPS and informed about availability of credit sources Intensive SPS implemented in 5 project areas with improvements in productivity and with a reduction of outside inputs	Training strategy designed and applied to prepare trainers, farmers and TA providers in environmental and productive good practices 2,000 cattle ranching farmers trained in SPS and informed about availability of credit sources 12,000 ha of intensive SPS implemented in 5 project areas 10% increase in average stocking rate (cows/ha) in intervened project areas 5 % increase in the production of beef and/or milk per intervened hectare in participating farms 30% decrease in the use of fertilizers and herbicides in participating farms in project areas	1.7	6%	29.2	94%	30.9
2. Increasing connectivity and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes	Investment, TA and STA	PES mechanism offering short-term payments to SPS that are privately profitable in the mid	38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented in terrestrial and riparian connectivity	3.8	58%	2.7	42%	6.5

		to long term, adjusted and implemented	corridors ¹)					
		Local PES mechanisms financed by service users, designed and implemented.	At least 2 PES mechanisms financed by local users of environmental services implemented by project end					
		Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index, resulting from the adoption of environment-friendly SPS in participating cattle ranching farms in project areas, over baseline	2,000 ha of degraded land recovered with vegetation cover 31,500 ha of pastures with trees or live fences 5,000 ha of remnant natural ecosystem conserved in cattle ranching farms in project areas 50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species 50% of water springs and streams present in intervened project areas protected with riparian buffers Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline					
3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching	Investment, TA, STA	Key alliances with project partners and stakeholders established M&E system established Applied research on SPS contributions to environmental services, including to climate change mitigation and	At least 3 strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments M&E system established and providing timely and relevant information on project's direct and indirect impacts in aid of decision-making processes SPS have been tested as a strategy for climate change adaptation in two pilot areas	0.8	53%	0.7	47%	1.5

¹ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian corridors or other landscape elements; their design includes a core strip for strict conservation purposes and buffer strips on each side that may include secondary succession for conservation or SPS.

		adaptation	Communications strategy implemented for different target audiences (mainly policy-makers and farmers)					
		Results dissemination to key stakeholders						
8. Project management				0.7	23	2.4	77	3.1
Total Project Costs				7.0		35		42

- ¹ List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.
² TA = Technical Assistance; STA = Scientific & Technical Analysis.

B. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT

<i>Name of Co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Project (\$M)</i>	<i>%*</i>
FEDEGAN	Private Sector	Grant & In-kind	3.3	9.4
CIPAV	NGO	In-kind	0.68	1.8
TNC	NGO	In-kind	1.47	4.2
FPAA	NGO	Grant & in-kind	1.55	4.4
FINAGRO	Project Government Contribution	Soft Loan	22	63
Others (cattle ranchers and producers associations)	Private Sector	In-kind	6	17
Total Co-financing			35.00	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

C. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation a</i>	<i>Project b</i>	<i>Total c = a + b</i>	<i>Agency Fee</i>	<i>For comparison: GEF and Co-financing at PIF</i>
GEF financing	220,000	7,000,000	7,220,000	722,000	7,942,000
Co-financing	161,500	34,950,000	35,111,500		33,161,500
Total	381,500	41,950,000	42,331,500	722,000	41,103,500

D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)¹

<i>GEF Agency</i>	<i>Focal Area</i>	<i>Country Name/ Global</i>	<i>(in \$)</i>		
			<i>Project (a)</i>	<i>Agency Fee (b)²</i>	<i>Total c=a+b</i>
World Bank	Biodiversity	Colombia	5,000,000	522,000	5,522,000
World Bank	Land Degradation	Colombia	2,000,000	200,000	2,200,000
Total GEF Resources			7,000,000	722,000	7,722,000

¹ No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

² Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF amount (\$)</i>	<i>Co-financing (\$)</i>	<i>Project total (\$)</i>
Local consultants*	6,652	1,092,786	848,130	1,940,916
International consultants*	0	0	0	0
Total	6,652	1,092,786	848,130	1,940,916

* Details to be provided in Annex C.

F. PROJECT MANAGEMENT BUDGET/COST

<i>Cost Items</i>	<i>Total Estimated person weeks</i>	<i>GEF amount (\$)</i>	<i>Co-financing (\$)</i>	<i>Project total (\$)</i>
Local consultants*	1,440	906,070	58,127	964,197
International consultants*	0	0	0	0
Office facilities, equipment, vehicles and communications		79,569	0	79,569
Travel		8,000	0	8,000
Others**		124,228	0	124,228
Total	1,440	1,117,867	58,127	1,175,994

* Details to be provided in Annex C. ** For others, it has to clearly specify what type of expenses here in a footnote. Others: External Audit; Mid Term Review expenses; FEDEGAN financial costs

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? yes no

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your agency and to the GEF Trust Fund).

H. DESCRIBE THE BUDGETED M&E PLAN:

The project’s Monitoring & Evaluation (M&E) plan is designed to measure: (i) the project’s administrative activities at the national and regional levels, including the consolidation of the oversight and coordination mechanisms for project implementation, and (ii) the project’s progress towards achieving its development and global environmental objectives.

Administrative activities and implementation progress. The Project Implementation Team (PIT) placed within The Colombian Cattle Ranching Association (FEDEGAN) would be responsible for monitoring financial management (including budgeting, treasury, accounting, and audits), procurement management, and implementation progress against Annual Operative Plans approved by the project’s Steering Committee comprised of FEDEGAN, the Center for Research on Sustainable Agricultural Production Systems (CIPAV), the Environmental and Childhood Action Fund (FPAA), and The Nature Conservancy (TNC). Information on implementation progress in each area would be consolidated by the project’s regional coordinators located in FEDEGAN’s Regional Development Units and reported to the PIT on a quarterly basis. Standardized report formats would be used to collect information on inputs and outputs in each region (e.g., agreements signed and implemented with local stakeholders), as well as information from Core partner agencies to track implementation status. Model formats would be included in the project Operational Manual. Information would be integrated with the support of a Management and Information System (MIS).

The MIS would generate the following information: (i) technical, financial, and procurement management reports as required by the Bank supervision missions and included in the Grant Agreement; (ii) disbursement requests and supporting documentation (unaudited statements of receipts, disbursements and fund balance, etc.); and (iii) co-financing reports for GEF reporting requirements.

Progress towards achieving project's Global Environment Objective. The proposed project seeks to assess the contribution of Silvopastoral Production Systems (SPS) and related instruments to promote their implementation in key production regions with different physical and social characteristics in terms of altitude, rainfall, soil type, proximity to varying ecosystems, barriers to increased production, among others.

The M&E plan under the proposed project includes an **impact evaluation** with the purpose of:

- i. Assessing the effectiveness of Payments for Environmental Services (PES) as a strategy to promote the adoption of SPS in each region;
- ii. Assessing the impact of introducing SPS in farms on the provision of Environmental Services (ES) in each region;
- iii. Assessing the impact on ES provision of prioritizing project interventions in connectivity corridors, particularly biodiversity conservation at the landscape and ecoregion levels (to evidence effects on ecosystem connectivity); and
- iv. Assessing the impact of introducing SPS on farm productivity, with particular attention to small and medium-scaled farmers.

To determine the effectiveness of the proposed PES scheme to promote farmer adoption of the desired SPS and related land use changes, a control group of cattle ranchers randomly selected from eligible beneficiaries (registered during the project's local dissemination events during PY1 and 2 and verified by the project's Steering Committee as complying with selection criteria per region) would be established. Farmers in the control group (approximately 500 in total) would have access to training and technical assistance under the project but would not benefit from PES. Farmers in the treatment group (1,500 in total) would also be randomly selected from the potential beneficiary list compiled during PY1 and 2 and benefit from all project instruments, including PES. For at least 3 years, farms in both groups would be monitored once a year to measure land use changes adopted and compare against baseline values determined during initial farm surveys conducted by FEDEGAN and Core partner agencies. Annual verification of land use changes would serve to certify compliance with PES contracts and determine payment levels, as well as measure farm area under each land use listed in the Environmental Service Index and its change in ha. regarding baseline. By project end, data for this coverage indicator in control vs. treatment farms would enable a comparison as to the effectiveness of PES to induce adoption of SPS-related land use changes.

To measure the impact of introducing SPS in farms on the provision of ES in each region, four services would be analyzed: biodiversity conservation, land restoration, carbon sequestration and water quality. At least three SPS-related land uses (intensive SPS, live fences, and trees in pastures) would be monitored for bird and focal plant species present at project start and during implementation in five plots per land use per region, and compared against levels in well-preserved forests and pastures without trees. Special attention would be placed to birds in a category of interest for conservation and/or forest-dependent species, while plant species would be chosen from the reference list established for each region during project preparation. Baseline inventories of species would be undertaken at project start and each year until project end.

The **impact on biodiversity conservation** of prioritizing project interventions in connectivity corridors would be measured by annually comparing the presence of bird and focal plant species in two land uses (pastures with trees and secondary forests) in beneficiary farms located outside connectivity corridors against those located in corridors. At least five plots per land use would be monitored in three of the five project areas. Biodiversity of aquatic organisms would be assessed in riparian connectivity corridors effectively established and selected for their biogeographical importance.

The **impact of introducing SPS in farms on land restoration** would be measured on beneficiary farms that implement any or all SPS and are located in the Caribbean region and the high slopes of the coffee growing ecoregion. The increase in vegetation cover (has) would be assessed against baseline values of farm areas without cover and annually measured on-site. The density and abundance of worms and dung-feeding beetles would also be

measured as an indicator of soil recovery, with measurements taken prior to project start in selected farms and three years after the adoption of SPS-related land use changes.

The **impact of introducing SPS in farms on carbon sequestration** would be measured in at least twenty beneficiary farms by setting up plots per land use and measuring organic matter in the soil before the adoption of the relevant SPS and in PY4 to compare tons of CO₂ equivalent present in each plot.

The **impact of introducing SPS in farms on water quality and flow regulation** would be measured in the high basin of the Quindio River and the Tulua River basin, as they have been prioritized for the establishment of long-term PES schemes financed by local ES users. In each basin, two nearby microcatchments of similar characteristics would be monitored: one where project activities are taking place and the other without project intervention. Water flow and sedimentation levels would be monitored in each microcatchment throughout project.

In addition, **the contributions of three land uses (pastures without trees, intensive SPS, and secondary forests) to sedimentation and run-off** would be assessed through the implementation of 10x5m run-off plots with five repetitions per treatment. Measurements would be taken in five participating farms for two months each year throughout project lifetime.

As for the impact of introducing SPS on farm productivity, treatment and control farms would be randomly set up from the list of eligible farmers compiled during PY1 and 2, whereby nearly 600 control farms would not benefit from any instrument throughout project. Production indicators included in the results framework above such as milk and beef produced per ha and animal stocking rates, along with related production costs associated with the use herbicides and fertilizers would be measured at project onset and each year thereafter. **Income and financial returns for selected SPS-related land use changes would also be measured and included in farm surveys.**

Farm data would be analyzed for small and medium-scaled farmers (identified using data from the initial registry of potential beneficiaries) to monitor impact on this population. In addition, access to subsidized FINAGRO credit would also be registered and its contribution to farm productivity assessed by PY3 and 5 in comparison with similar farmers in project areas not taking part in project.

Finally, all farms in the *La Vieja* River basin that took part in the GEF/IBRD *Regional Silvopastoral Approaches to Ecosystem Management Project* in *Quindio* and *Valle del Cauca* (with 2 and 4 year payments or control) would be evaluated during PY1 and 5 to determine: (i) if sustained or increased adoption of SPS present at project end, occurred after payments ceased, and (ii) if adopted land use changes were dropped or reversed after payments ceased, including to identify the uses they were substituted with.

Farm production data would be collected by FEDEGAN's technicians in the field and data on environmental service provision by the core partner agencies in accordance with their expertise.

Standardized report formats would be consolidated annually by the PIT with the following information from each area: (i) SPS established in participating farms; (ii) variations in ES, compiled through the ES index; (iii) PES contracts signed and implemented; (iv) variations in farm productivity; (v) credits and ICRs allocated to participating farmers, particularly to small and medium-sized farmers; (vi) training agreements with Technical Assistance (TA) providers, and training in good production and environmental practices (GPEP) offered to stakeholders; and (vii) linkages established with policy makers and instruments.

Final and intermediate outcome indicators included in the project's results framework would be monitored as per the arrangements included in the M&E table indicating the type and frequency of reports and the project partner responsible for data collection. The information would be compiled by the PIT with Core partner agency support, particularly regarding biodiversity and ES provision. An M&E protocol would be developed by CIPAV and TNC detailing procedures and indicators at the farm, the landscape, and the ecoregion levels. This protocol would be transferred to FEDEGAN and FPAA for their enrichment and use, or be directly administered by CIPAV and TNC.

Information collection and analysis of these indicators would take place on a periodic basis, with active participation by farmers where possible.

Land use changes would be monitored with the support of remote sensors such as satellite images, aerial photographs, and Global Positioning Systems (GPS) according to the availability of these resources in each area. Information provided by these sensors would be processed in Geographic Information System (GIS) software, once land use changes have been verified in situ. It is anticipated that professional services, consultants, or specialized agencies would be hired to perform selected M&E activities, particularly regarding the project's impact evaluation.

Information provided by administrative and technical progress reports would be assessed periodically by the project's Steering Committee to address any implementation weaknesses and adjust project strategies as required. In addition, these reports would provide the basis for the Bank's bi-annual supervision missions, including the project's mid-term review and completion assessment. Finally, impact evaluation results would enable the Bank and project partners to promote the proposed strategy for the adoption of environment-friendly cattle ranching production systems among key policy-makers.

The Project's allocations for the Monitoring and Evaluation activities have been addressed in Components 3 and 4 and are presented in the following table:

M&E COST BY COMPONENT AND/OR ACTIVITY	Cofinancing (\$)	GEF (\$)	Total (\$)
Component 3- Institutional strengthening, dissemination and M&E efforts	303,964	540,444	844,409
Information assessment and annual reports by Project Implementation Team	11,689	0	11,689
M&E of impact of introducing SPS in farms on the provision of environmental services (biodiversity conservation, land restoration, carbon sequestration and water quality)	158,942	407,111	566,053
M&E of impact of introducing SPS on farm productivity	133,333	133,333	266,667
Component 4-Project management	1,213,432	629,105	1,842,538
Project Implementation Team	1,015,545	478,425	1,493,971
Monitoring financial management (audits)	0	48,889	48,889
Monitoring implementation progress (mid-term review, office facilities, equipments, vehicles)	197,887	101,791	299,678
Total M&E Costs	1,517,397	1,169,550	2,686,947

PART II: PROJECT JUSTIFICATION: In addition to the following questions, please ensure that the project design incorporates key GEF operational principles, including sustainability of global environmental benefits, institutional continuity and replicability, keeping in mind that these principles will be monitored rigorously in the annual Project Implementation Review and other Review stages.

Project justification including detail project design is provided in the Project Document which has been submitted along with this request. Please review the main text of the Project Document, or for details, review annexes.

- A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:**
- B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL AND/OR REGIONAL PRIORITIES/PLANS:**
- C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:**
- D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES.**
- E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**
- F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :**
- G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:**
- H. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:**

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. INSTITUTIONAL ARRANGEMENTS:

The project's main partnership for implementation and cofinancing purposes is an alliance between the Colombian Cattle Ranching Association (FEDEGAN), the Center for Research on Sustainable Agricultural Production Systems (CIPAV), the Environmental and Childhood Action Fund (FPAA), and The Nature Conservancy (TNC). This partnership arrangement dates back to 2005 when progress under the GEF/IBRD *Regional Silvopastoral Approaches to Ecosystem Management Project (RSPS Project)* encouraged FEDEGAN and CIPAV to seek a scaling-up operation that coincided with the subsector's interest in promoting a sustainable production culture. The opportunity to work directly with the cattle ranching association, traditionally unaware of the environmental and social considerations promoted by the project, was capitalized by all agencies involved. This project partnership has worked effectively in the preparation and approval of the proposed project.

An institutional assessment was conducted to evaluate the strengths and weaknesses of each agency, along with an assessment of the reputational risk involved in partnering with FEDEGAN². Recommendations from both assessments have been taken into account to determine these implementation arrangements, which positively valued the proposed collective management to further enhance the message of the subsector's transformation. The general recommendation is to maintain the four agencies as implementation partners, with clearly assigned responsibilities, to ensure project success.

Given FEDEGAN's key role in ensuring project impact, both through its leadership in favor of the subsector's development and its interest in the subsector's transformation towards sustainable production models, as well as its ample experience in the administration of public funds and project execution by delegation of the Government of Colombia (GoC), FEDEGAN would be the GEF grant recipient and Lead Executing Agency.

A Grant Agreement would be signed between the World Bank, as GEF Implementing Agency, and FEDEGAN, as Lead Executing Agency. Subsidiary agreements would be drafted prior to negotiations and signed between FEDEGAN (hereinafter 'Lead Executing Agency') and CIPAV, FPAA, and TNC (hereinafter 'Core Partner Agencies') before grant effectiveness. Each core partner agency would designate a project coordinator responsible for the implementation of activities foreseen in each subsidiary agreement signed with FEDEGAN, and act as the agencies' representative for all project matters.

A Steering Committee composed of the project coordinators in FEDEGAN and Core partner agencies would meet periodically to review project progress based on M&E and make collective decisions on key technical and administrative issues for implementation.

Stakeholders such as the National Planning Department (DNP), the Ministries of Agriculture and Rural Development (MADR), the Ministry of Environment (MAVDT), and Environment, the Fund for Agricultural and Livestock Sector Financing (FINAGRO), Regional Environmental Authorities (CARs), local authorities, technical assistance providers, NGOs specializing in sustainable rural development, and producer associations would need to be actively engaged in project implementation to ensure that the proposed strategy for the broader adoption of environment-friendly cattle ranching production systems in Colombia is validated and scaled up. A Public Policy Committee comprised of representatives of the MAVDT, the MADR/FINAGRO, the DNP, and the Association of CARs (ASOCARS) would advise the overall implementation of the proposed project and provide guidance on its scope.

² Reputational risk assessment concluded that there is a moderate risk of FEDEGAN, in its capacity as the cattle ranchers' professional association in Colombia, to be perceived as directly involved with illegal armed groups. However, the assessment highlights FEDEGAN's good standing with the GoC and full support from State entities involved in the sector, as well as its good reputation in several regions selected for project intervention.

B. PROJECT IMPLEMENTATION ARRANGEMENTS

Lead Executing Agency. FEDEGAN is a non-profit trade association founded in 1963 and subject to the Colombian private law. It brings together regional and local trade associations and other entities involved in cattle ranching activities.

As Lead Executing Agency, FEDEGAN would be responsible for project administration, including: (a) activity supervision; (b) procurement of goods and services for project execution, including those directly undertaken by Core partner agencies in accordance with the approved Annual Operative Plans (POAs); (c) the project's financial management and accounting; and (d) technical and administrative monitoring and information consolidation and reporting.

FEDEGAN would manage project implementation at the local level through its Regional Development Units and technical assistance centers, and at the national level it would foster an enabling environment on the necessary institutional conditions for the broader adoption of environment-friendly SPS in Colombian cattle ranching, particularly by small and medium-scale producers. FEDEGAN would also administer the provision of technical assistance to participating farmers and training to TA providers, as well as lead the project's communications strategy.

Core partner agencies. CIPAV, FPAA, and TNC would enter into subsidiary agreements with FEDEGAN to perform specific functions for project implementation, according to their area of expertise as follows:

- **CIPAV** is an NGO founded in 1992 with a mandate to contribute to sustainable rural development in Colombia through research, training, and communication related to production systems that are appropriate for tropical agro-ecosystems. CIPAV implemented the GEF *Regional Silvopastoral Project* in Colombia and has developed strong technical capacity to design and implement SPS and monitoring systems for sustainable cattle ranching in different regions of Colombia and Central America. CIPAV would have a technical role in project implementation, which includes: (i) training FEDEGAN's technicians and other TA providers in project areas in SPS implementation; (ii) undertaking baseline farm assessments jointly with TNC; (iii) supporting PES negotiations and contracts to be signed by FPAA as the PES special account administrator; (iv) supporting TA provision for SPS adoption to participating farmers; (v) helping set up an M&E system to track generation of ES and contract compliance, including a protocol to monitor ES provision at the farm level; (vi) verifying on-site land use changes and certifying PES contract compliance; and (vii) leading applied research and studies.
- The **FPAA** is a non-profit, public service institution founded in 2000 under the US-Colombia bilateral agreement for the *Enterprise for the Americas Initiative* (EAI). The FPAA administers resources from conditional, official debt relief to support child survival and environmental programs, currently from the EAI and the Tropical Forest Conservation Act (TFCA) accounts. The FPAA would: (i) administer a special account to fund PES subprojects under component 2, constituted with GEF resources and joint cofinancing by the FPAA and eventually ES users; and (ii) support the administration of PES contracts negotiated on-site by CIPAV and TNC by making direct payments to farmers, producing necessary documentation, and jointly undertaking negotiations with local ES users under long-term PES schemes.
- **TNC** is an international NGO founded in 1951 with a mission to preserve the plants, animals, and natural communities that represent the diversity of life on Earth, by protecting the lands and waters they need to survive. TNC would: (i) continue to provide key technical assistance for specific site selection and help validate and adjust, at the farm level, the connectivity corridors designed at the ecoregion and landscape levels (see PAD Annex 10B); (ii) support CIPAV during baseline farm assessments under components 1 and 2 and PES contract negotiations; (iii) help design and implement the M&E system, focusing on biodiversity-related effects at the landscape and ecoregion levels; and (iv) undertake water quality studies to support negotiations with local ES users under long term PES schemes.

Project oversight. A Public Policy Committee comprised of representatives of the MAVDT, the MADR/FINAGRO, the DNP, and the Association of CARs (ASOCARS) would advise the overall implementation of the proposed project and provide guidance on its scope. The Committee would meet twice a year with the Steering Committee, and in extraordinary circumstances if required, to: (a) advise project performance based on progress reports prepared by the lead Executing Agency with core partner agencies' support; and (b) suggest adjustments based on M&E results to ensure that the proposed strategy for the broader adoption of environment-friendly cattle ranching production systems in Colombia is validated and adjusted under the project, for subsequent up-scaling.

Representatives of local participants and producer associations would be invited to the Public Policy Committee to assess project progress, discuss concerns, and suggest adjustments to the project's Steering Committee. Representatives of regional environmental and local planning authorities, and ES users involved in the PES mechanisms would also be invited to participate in the Public Policy Committee.

Project coordination. The Project Implementation Team (PIT) would be placed within FEDEGAN and staffed with: (i) a project coordinator; (ii) one technical and one administrative coordinator; (iii) a procurement officer; (iv) an accountant; (v) an administrative assistant; and (vi) a communications coordinator, all operating under terms of reference satisfactory to the Bank, and selected in accordance with competitive and transparent procedures satisfactory to the Bank, as described in the Operational Manual.

At the regional level, FEDEGAN's Regional Development Units would be permanently staffed with one project coordinator per region and at least one administrative assistant, and would be responsible for: (i) coordinating activity implementation under project components; (ii) convening regional/local partners, and leading negotiations with local stakeholders for enhanced participation; and (iii) consolidating information on project status in each area through standardized report formats to be sent to the PIT on a periodic basis.

A Steering Committee comprised of the project coordinators in FEDEGAN and Core partner agencies, or their representatives, would meet once each quarter and in extraordinary circumstances if required, in order to: (a) approve POAs prepared by FEDEGAN with core partner agencies' support for submission to WB; (b) review project progress based on M&E results; (c) make collective decisions on key technical and administrative issues for project implementation, including beneficiary selection; and (d) advise Public Policy Committee actions. FINAGRO and other stakeholder representatives would be invited to participate, within the framework of existing or future agreements with FEDEGAN³. Decision-making responsibilities within the project's Steering Committee would be assigned in the Operational Manual.

National, regional and local allies. The institutional assessment identified a number of key regional and local partners that the project can associate with in each region to maximize its positive impacts. Therefore, it is foreseen that FEDEGAN's PIT could enter into Memorandum Of Understanding-type agreements with these stakeholders such as regional environmental authorities, governors and mayors (interested in providing co-financing for PES and/or SPS implementation), local planning councils, universities (to ensure the replicability of capacity-building efforts), and other local NGOs working on similar activities for sustainable rural development. GEF funds would not be transferred to such stakeholders as a result of these agreements.

Additional national partners have also been identified to scale up project impacts. These include agricultural research and development institutes such as the Colombian Agricultural Research Corporation (CORPOICA) and the Colombian Institute for Rural Development (INCODER), the National Learning Service (SENA), the National Network for Agro-ecotourism and Ecotourism (AGROECOTUR) and other NGOs supporting agro-ecotourism in rural farms.

³ FEDEGAN and FINAGRO have entered into a cooperation agreement setting up credit lines for small and medium-scale farmers for productive innovation and improved productivity.

Project Operational Manual. An Operational Manual (OM) would guide overall project implementation and include rules and procedures for administration, including: (i) performance indicators to be tracked through the administrative M&E system, with standardized report formats to be used for their compilation; (ii) procurement procedures and formats; (iii) financial management procedures, including accounting, auditing, internal control, and reporting; (iv) safeguards procedures; and (v) a detailed description of PES scheme operation, beneficiary selection criteria, among others. A draft OM would be reviewed by the Bank prior to negotiations.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The project's main partnership for implementation and cofinancing purposes is an alliance between the Colombian Cattle Ranching Association (FEDEGAN), the Center for Research on Sustainable Agricultural Production Systems (CIPAV), the Environmental and Childhood Action Fund (FPAA), and The Nature Conservancy (TNC). FPAA and TNC joined the initiative given their interest in stimulating private sector participation and investments in biodiversity conservation and sustainable natural resource use.

The project's global environment objective is to promote the adoption of environment-friendly silvopastoral production systems in Colombian cattle ranching in project areas, to improve natural resources management, enhance the provision of environmental services (biodiversity, land, carbon and water) and to raise the productivity in participating farms. The project objective remains unchanged in relation to the original PIF.

The primary target group are predominantly small to medium-scale farmers from the following five regions: (i) the traditional livestock production region in the *Cesar River Valley*; (ii) the adjacent lower *Magdalena River* region; (iii) the traditional dairy cattle production regions of *Boyacá* and *Santander*; (iv) the coffee producing ecoregion and upper *Cauca River*; and (v) the low foothill region in the eastern cordillera of southern *Meta*. Larger-scale farmers located in the proposed connectivity corridors in each area would also be able to participate⁴.

The GEF *Regional Silvopastoral Project* demonstrated that not all silvopastoral practices have the same profitability for farmers or contribute equally to biodiversity conservation⁵. The current project design will therefore apply distinct strategies in each area to promote environment-friendly land management in cattle ranching farms.

The proposed project will focus on reducing key constraints to the adoption of land use practices that are beneficial both for the farmer and the environment, such as lack of knowledge or capital, through the following components: (i) Improving productivity in participating cattle ranching farms in project areas, through SPS; (ii) Increasing connectivity and reducing land degradation in participating cattle *ranching* farms, through differentiated PES schemes; (iii) Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching; and (iv) Project management.

Total project cost is now US\$42 million of which the Global Environment Facility (GEF) would finance \$7 million through a full-size grant. Additional co-financing of US\$2 million was obtained during project preparation and is now US\$35 million.

During project preparation, components presented in the original PIF were adjusted (particularly Component 2: Green Markets Development and Component 3: Agro-ecotourism Development) to better achieve the project's objective:

- Activities previewed in Component 1 (*Integrated farm management*) of the original project design, have remained mostly unchanged. Targeted Payments for Environmental Services (PES) are now considered in Component 2 of the current project. The aim of Component 1 in the proposed project is to sustainably increase productivity in cattle production farms through the adoption of environment-friendly SPS. This component will provide initial support to finance the costs of correctly implementing silvopastoral practices most suited to regional conditions. Component 1 total cost is now US\$30.9M, of which \$1.7M from GEF.

⁴ Taking into account the results from the social assessment and criteria employed by rural legislation in force, the proposed project would use farm extension to classify farmer size with differentiated ranges to adequately respond to regional differences. Eligibility criteria would include that: (i) farmer is head of household and certifies legal land occupancy pursuant to Colombian rural legislation currently in force; and (ii) cattle ranching is the main production activity and the main source of income for farmer. Inclusion would not be based on affiliation to FEDEGAN or counterpart regional/local cattle ranching associations or committees.


⁵ Three land use/technology categories were identified: (i) highly profitable SPS such as fodder banks, improved pastures with high density *Leucaena* or low tree density, among others, which provide some environmental services in terms of biodiversity and carbon sequestration. However, certain practices (e.g. intensive *Leucaena*) are not necessarily very beneficial to biodiversity unless established in association with multi-species live fences; (ii) SPS with a moderate, short-term impact on farm productivity, such as live fences or trees in pastures with diversified commercial value, but offering clear economic returns in the mid to long-term and greater ES contributions; (iii) Land use changes representing an opportunity cost for farmers in the short-term, such as withdrawing farm land from cattle ranching production for the provision of high value environmental services (e.g. watershed protection, secondary forest recovery in degraded pastures) are less attractive to farmers and demand long-term sources for their sustained adoption.

- The aim of Component 2 in the current project design is to increase connectivity and reduce land degradation in participating cattle ranching farms, through differentiated PES schemes. The current project design still focuses its activities on the implementation of PES schemes to promote the adoption of environment-friendly SPS. Biodiversity assessments completed during project preparation helped determine key natural ecosystem remnants in each area, as well as the priority axes along which to connect and conserve them during project implementation; such axes are located along water courses or in terrestrial areas in selected cattle ranching landscapes. The project will support the implementation of a PES mechanism through which the most desirable and relevant land uses for each corridor⁶—both strictly conservation and productive—would be promoted. The proposed PES scheme would offer: (i) short-term payments using GEF resources to support SPS that offer clear economic returns in the mid to long-term such as trees in pastures and live fences, in order to compensate for the initial investment costs (along with intensive SPS, these are expected to be the predominant land use changes). Farmers that adopt strict conservation land uses (e.g., preserving natural ecosystems or establishing new conservation areas) would also receive short-term PES during project life; and (ii) long-term payments from water and other ES users, including payments from the National REDD strategy currently under formulation, to induce the adoption of land uses that are highly attractive from a biodiversity perspective, but are less profitable for farmers. PES contracts would promote an integrated farm management that enhances farm productivity while ensuring a sustainable use of natural resources. The proposed project will also support efforts to establish long-term funding sources in at least two cattle production areas by facilitating buyer-seller participation, fund administration, and by monitoring ES generation and contract compliance for water and potentially carbon services. Regarding certification and promotion of environment-friendly products, the original project design would have supported broadening FEDEGAN's current meat certification scheme to include environmental criteria. These activities have been scaled back in light of the uncertain benefits to such schemes (given the costs of certification and the uncertain prospects of receiving a price premium). The proposed project still includes some related activities in Component 1, financed by FEDEGAN (US\$20,000), aimed at better understanding the potential for using certification mechanisms to encourage more sustainable livestock activities. Component 2 total cost is now US\$6.5M, of which \$3.8M from GEF.
- The aim of PIF Component 3 (*Agro-ecotourism Development*) has changed in the current project design to establish key alliances with project partners and stakeholders through a communications strategy (previously considered in PIF Component 4) that ensures project instruments and results are disseminated from the start. In addition, efforts would focus on establishing a monitoring and evaluation system that provides timely and relevant information contributing to the future broader adoption of sustainable cattle ranching production systems in Colombia. Producer associations would also be strengthened to apply to and benefit from project instruments. Agro-ecotourism development is now being considered in Component 1 but limited to support efforts to design a proposal, financed by TNC and FEDEGAN (US\$48,000), for market agro-ecotourism in farms where it is implemented, particularly in the coffee ecoregion and the low foothills of *Meta*. TNC would support agro-ecotourism efforts by helping interested farmers plan the financial sustainability of their services/activities, adapting its training tool developed for ecotourism in protected areas. Linkages would be sought with the existing Agro and Ecotourism network and other organizations supporting sustainable rural tourism in Colombia. Component 3 total cost is now US\$1.5M of which \$0.8M from GEF.
- PIF Component 4 (*Project Management*) has remained largely the same in the current project design: its aim is to improve institutional capacity and coordination to develop the project and enable the project's financial, technical, legal, and administrative execution, as well as project management M&E. The communication strategy previously considered in this Component is now envisaged in Component 3. Component 4 total cost is US\$3.1M, of which \$0.7M from GEF.

⁶ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian corridors or other landscape elements. Their design includes a core strip for strict conservation purposes and buffer strips for secondary succession or SPS. Final land uses to be adopted in the core and buffer strips would depend on site conditions and land use planning agreements reached with individual participating farmers.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Steve Gorman GEF Agency Coordinator		October 20, 2009	Jocelyne Albert Sr. Regional Coordinator World Bank	202-473-3458	jalbert@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
<p>Global Environment Objective: To promote the adoption of environment-friendly silvopastoral production systems in Colombian cattle ranching in project areas, to improve natural resource management, enhance the provision of environmental services (biodiversity, land, carbon, and water), and raise the productivity in participating farms</p>	<p>50,500 ha. of environment-friendly cattle ranching production systems⁷ implemented in 5 project areas</p> <p>5 % increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs</p> <p>Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS in participating farms in project areas, over baseline</p> <p>Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline</p> <p>At least two PES mechanisms financed by local users of environmental services, implemented by project end</p> <p>Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.)</p> <p>2,000 cattle ranching farms benefitting from project instruments (technical assistance, PES, or support for credit access)</p>	<p>PY1-3: Verify land use changes in project areas and devise corrective measures if 60 percent of target has not been achieved by PY3</p> <p>PY1-4: Assess the extent to which SPS effectively contribute to productivity increase in cattle ranching farms</p> <p>PY1-3: Assess the presence of globally important biodiversity in productive landscapes under project</p> <p>PY3: Assess contributions of SPS to reduce land degradation as measured by soil erosion and other indicators as needed</p> <p>PY1-3: Assess the number of ES users willing to participate, and redirect PES strategy if commitments have not been ensured in at least 2 areas</p> <p>PY5: Support the sector's Strategic Plan 2019 in the promotion of sustainable livestock production</p> <p>PY1-3: Assess the number of farms entering project, and reinforce communication strategy if 70 percent of target has not been achieved by PY2</p>
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
<p>Component 1. Improving productivity in participating cattle ranching farms in project areas, through SPS</p>	<p>12,000 ha of intensive SPS implemented in 5 project areas</p> <p>10% increase in average stocking rate (cows/ha) in intervened project areas</p> <p>30% decrease in the use of fertilizers and herbicides in participating farms in project areas</p> <p>2,000 cattle ranching farmers trained in SPS and informed about availability of credit sources</p>	<p>PY1-3: Verify land use changes in project areas and devise corrective measures if 30 percent of target has not been achieved by PY3</p> <p>PY3-5: Assess SPS contribution to improved productivity in cattle ranching farms</p> <p>PY1-3: Assess the number of farmers informed and accessing financial services</p>

⁷ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system:

- its increase of vegetative cover in farms, including trees
- its decrease of agrochemicals of fossil origin (pesticides and fertilizers)
- its contributions to decrease soil erosion
- its overall contribution to improve the quality of the landscape

	Training strategy designed and applied to prepare trainers, farmers and TA providers in environmental and productive good practices	offered, and adjust strategy if small and medium-sized producers have limited access. PY1-5: Assess alliances set up to guarantee quality training offer in sustainable livestock practices
Component 2. Increasing connectivity between ecosystems and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes	<p>38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented in terrestrial and riparian connectivity corridors⁸):</p> <ul style="list-style-type: none"> ▪ 2,000 ha of degraded land recovered with vegetation cover ▪ 31,500 ha of pastures with trees or live fences ▪ 5,000 ha of remnant natural ecosystem conserved in cattle ranching farms in project areas <p>50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species</p> <p>50% of water springs and streams present in intervened project areas protected with riparian buffers</p> <p>Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline</p>	<p>PY3: Assess the extent to which participating farms effectively enhance the connectivity of remnant natural ecosystems</p> <p>PY3-5: Assess the effectiveness of proposed PES incentives for biodiversity conservation and ES generation in farms, and adjust as necessary</p>
Component 3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching	<p>At least 3 strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments</p> <p>M&E system established and providing timely and relevant information on project's direct and indirect impacts in aid of decision-making processes</p> <p>SPS have been tested as a strategy for climate change adaptation in two pilot areas</p> <p>Communications strategy implemented for different target audiences (mainly policy-makers and farmers)</p>	<p>PY3: Assess the effectiveness of institutional arrangements to ensure satisfactory project implementation and adjust them if needed</p> <p>PY1-5: Adjust project implementation according to M&E results</p> <p>PY3-5: Assess SPS contributions to CC mitigation and adaptation</p> <p>PY1-5: Assess the strategy's effectiveness in generating information contributing to the broader adoption of sustainable production systems</p>
Component 4. Project management	Project Implementation Team set up and working effectively to coordinate national and regional project execution	PY1-5: Assess and adjust implementation arrangements, as needed

⁸ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian corridors or other landscape elements; their design includes a core strip for strict conservation purposes and buffer strips on each side that may include secondary succession for conservation or SPS.

Arrangements for results monitoring

Project Outcome Indicators	Target Values (%)						Data Collection and Reporting		
	Baseline	YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
50,500 ha. of environment-friendly cattle ranching production systems implemented in 5 project areas	0	26	60	91	100	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN
5 % increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs	0	10	30	50	80	100	Mid-term, Final	Progress reports by EA based on Annual	FEDEGAN
Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS in participating farms in project areas, over baseline	0	10	30	50	70	100	Annual, Mid-term, Final	Operative Plans (POAs)	CIPAV
Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline	0	0	30	50	70	100	Annual, Mid-term, Final	M&E Reports from FEDEGAN and project partners	CIPAV
At least two PES mechanisms financed by local users of environmental services, implemented by project end	0	30	60	80	90	100	Annual, Mid-term, Final		FPAA & TNC
Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.)	0	10	30	50	70	100	Mid-term, Final		FEDEGAN
2,000 cattle ranching farms benefitting from project instruments (technical assistance, PES, or support for credit access)	0	20	70	100	100	100	Semiannual, Annual, Mid-term, Final		FEDEGAN
Intermediate Outcome Indicators:									
Component 1:									
12,000 ha with intensive SPS implemented in 5 project areas	0	10	20	50	85	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN
10% increase in average stocking rate (cows/ha) in intervened project areas	0	10	30	50	80	100	Mid-term, Final	Progress reports by EA based on POAs	FEDEGAN
5% increase in milk and/or beef production per intervened ha in participating farms, with a reduction of outside inputs	0	10	30	50	80	100	Mid-term, Final	M&E reports from FEDEGAN and project partners	FEDEGAN
30% decrease in the use of fertilizers and herbicides in participating farms in project areas	0	10	20	50	85	100	Annual, Mid-term, Final		FEDEGAN
2,000 cattle ranching farmers trained in SPS and informed about availability of credit sources	0	20	70	100	100	100	Semiannual, Annual, Mid-term, Final		FEDEGAN
Training strategy designed and applied to prepare trainers, farmers, and TA providers in environmental and productive good practices	0	10	30	50	80	100	Semiannual, Annual, Mid-term, Final		FEDEGAN, CIPAV & TNC
Component 2 :									
38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented n terrestrial and riparian connectivity corridors)	0	28	63	92	100	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FPAA, CIPAV & TNC
50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species	0	5	25	50	80	100	Annual, Mid-term, Final	Progress reports by EA based on POAs	CIPAV.
50% of water springs and streams present in intervened project areas protected with riparian buffers	0	10	30	50	70	100	Annual, Mid-term, Final	M&E reports from FEDEGAN and project partners	TNC & CIPAV

Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline	0	10	30	50	70	100	Annual, Mid-term, Final		CIPAV
Component 3:									
At least 3 strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments	0	80	100	100	100	100	Semiannual, Annual, Mid-term, Final	Reports from FEDEGAN and project partners	FEDEGAN, CIPAV, TNC, FPAA,
M&E system established and providing timely and relevant information on project's direct and indirect impacts in aid of decision-making processes	20	50	70	80	100	100	Semiannual, Annual, Mid-term, Final	Progress reports by EA based on POAs Project committees AM	FEDEGAN, CIPAV, TNC & FPAA
SPS have been tested as a strategy for climate change adaptation in two pilot areas	0	10	30	50	70	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN & CATIE
Communications strategy implemented for different target audiences (policy-makers, farmers, general public)	0	10	25	40	70	100	Semiannual, Annual, Mid-term, Final		FEDEGAN

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

STAP screening of PIF (March 11, 2008)		
	Comment	Response
1	<p>STAP</p> <p>PIF is well written and STAP believes the project is scientifically justified. The earlier GEF/IBRD <i>Regional Silvopastoral (RSPS) Project</i> was notable in that it attempted to determine, through careful design and analysis, how effective the various interventions were. STAP encourages the proponents to continue such a focus in this proposed extension to that earlier project.</p>	<p>Best practices on PES schemes, particularly key lessons from the RSPS Project have been incorporated into project design.</p> <p>The M&E plan under the proposed project includes an impact evaluation with the purpose of assessing the effectiveness of the SPS and PES strategies adopted in the project (for further details see Part I, Section H of this document and PAD Annex 3 <i>Results Framework and Monitoring</i>)</p>
2	<p>STAP</p> <p>The current proposal emphasizes financial and technical assistance, but the Regional SilvoPastoral (RSPS) Project did not find a strong impact from technical assistance. The current project should be designed to test the impact from Technical Assistance explicitly (for example, by randomly assigning financial assistance to some eligible farmers and technical and financial assistance to others).</p>	<p>The RSPS Project demonstrated that the primary obstacles to adoption of SPS by farmers are the lack of knowledge of their existence, their high initial cost, and their technical complexity. Moreover, many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services, are externalities from the perspective of individual landholders, who therefore have limited incentives to adopt them.</p> <p>The RSPS measured and demonstrated the effects of providing technical assistance and using payments for environmental services (PES) to induce farmers to adopt SPS and related land use changes. Farmers responded positively to PES and technical assistance offered under the project for the adoption of such changes in their production systems, particularly by implementing natural pastures with trees, mixed fodder banks, and live fences. At the Colombia site, PES recipients changed land use on 48 percent of their farm area, compared to less than 13 percent for members of a control group.</p> <p>Based on lessons learned from the RSPS project, the current project's proposed strategy for the broader adoption of SPS in Colombia, led by a key actor in the subsector's development such as FEDEGAN, would address the barriers associated with access to financial resources and technical assistance through differentiated instruments, including PES. By the end of the project, 50,500 ha. of environment-friendly cattle ranching production systems⁹ are expected to be implemented in 5 project areas.</p> <p>To determine the effectiveness of the proposed strategy, the project will measure, among others, the impact of introducing SPS in farms on the provision of four ES (biodiversity conservation, land restoration, water quality and flow regulation and carbon sequestration) in different project regions. The project will also measure the impacts of introducing SPS on farm productivity through treatment and control farms (randomly set from the list of eligible farmers compiled during PY1 and PY2), whereby nearly 600 control farms would not benefit from any instrument throughout the project.</p> <p><u>For further M&E details see PAD Annex 3 <i>Results Framework and Monitoring</i>.</u></p>

⁹ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system:

- its increase of vegetative cover in farms, including trees
- its decrease of agrochemicals of fossil origin (pesticides and fertilizers)
- its contributions to decrease soil erosion
- its overall contribution to improve the quality of the landscape

3	STAP	<p>Although the ecological impacts of the interventions can be reasonably well ascertained in this kind of project in the absence of a carefully selected control group that receives no silvopastoral intervention (because the land use changes are so dramatic), the same cannot be said of the social welfare impacts. Thus choosing a control group that receives no silvopastoral assistance may still be worthwhile in this project (e.g., through an oversubscription method, or randomized order of phase in).</p>	<p>Baseline assessments will be conducted to register land use, socioeconomic, environmental and production conditions of participating farms, relevant to outcome indicators included in the project's results framework.</p> <p>An impact evaluation would be undertaken to assess impacts directly caused by the project interventions in project area. Farm data would be analyzed for small and medium-scaled farmers (identified using data from the initial registry of potential beneficiaries) to monitor impact on this population.</p> <p>In addition, access to subsidized FINAGRO credit would also be registered and its contribution to farm productivity assessed by PY3 and PY5 in comparison with similar farmers in project areas not taking part in project. Income and financial returns for selected SPS-related land use changes would also be measured and included in farm surveys.</p> <p><u>For further detail see PAD Annex 3 Results Framework and Monitoring</u></p>
GEF SEC Comments at PIF Stage – April, 2008			
		Comment	Response
1	GEFSEC	<p>At the time of CEO endorsement, the project final design & document should <u>carefully distinguish the global benefits from the GEF investment</u>, in order for GEF's added value and incremental investment to be clearly distinguished</p>	<p>This suggestion has been taken into consideration in the PAD (Annex 15: <i>Incremental Cost Analysis</i>)</p>

GEF Council Comments at PIF Stage – April, 2008 (Reference to GEF SEC C33/9)

		Comment	Response
1	Germany	In view of the small size of the project, mainstreaming may be the wrong word – it is rather an advanced larger scale pilot	<p>The project’s Global Environment Objective (GEO) is to promote the adoption of environment-friendly silvopastoral production systems¹⁰ in Colombian cattle ranching in project areas, to improve natural resource management, enhance the provision of environmental services (biodiversity, land, carbon, and water), and raise the productivity in participating farms.</p> <p>The project is financed by a \$7 million GEF grant and co-financing of \$35M from local sources, and in the context of nearly 40 million hectares under cattle ranching in Colombia, is still considered a pilot project targeting 50,500 ha (0.13 percent)</p>
2	Germany	<p>A number of issues remain unclear:</p> <ul style="list-style-type: none"> • Which proportion of cattle is kept by which type of farmer (% of animals by farmer size)? • Which proportion of land is managed by these small scale producers – 10, 20 or 50%? • Data from the project areas are also required – e.g. are 50 or 5,000 households potential beneficiaries? • No. of farms in the project areas? 	<p>About 38% of Colombia’s total land surface is used for cattle ranching— an area that has expanded from 14.6 to 38 million hectares (ha) over the last fifty years. In addition, 66% of the land used as permanent pasture is degraded and otherwise unsuitable for grazing. Average stocking rates on these pastures are estimated at less than 1 animal per hectare.</p> <p>As with other agricultural activities, cattle ranching is carried out in areas where high poverty levels¹¹, unequal income distribution, illiteracy, violence, and unequal land ownership prevail. Except for a small percentage of very large landowners, most landholdings are small: 82% of cattle ranchers have less than 50 animals per farm (5.3 million animals or 23.7% of total cattle stock) and face technological and financial limitations to participate in the subsector’s development (e.g. 15% have no formal education and 33% have taken only a few primary courses).</p> <p>Medium-scale farmers (representing 16.9% of total cattle ranchers) have 50 to 500 animals per farm (11.5 million animals or 51.6% of the total cattle stock). Large-scale farmers (representing 1.1% of total cattle ranchers) have more than 500 animals per farm (5.5 million animals or 24.7% of the total cattle stock).</p> <p>The project’s primary target group are predominantly small to medium-scale farmers from the following five regions: (i) the traditional livestock production region in the <i>Cesar</i> River Valley; (ii) the adjacent lower <i>Magdalena</i> River region; (iii) the traditional dairy cattle production regions of <i>Boyacá</i> and <i>Santander</i>; (iv) the coffee producing ecoregion and upper <i>Cauca</i> River; and (v) the low foothill region in the eastern cordillera of southern <i>Meta</i>. Large owner participation will also be allowed when it contributes to achieve project objectives regarding the provision of key environmental services (biological connectivity, carbon sequestration, watershed management, and land restoration).</p> <p>By the end of the project, 2,000 cattle ranching farms are expected to benefit from project instruments (technical assistance, PES or support for credit access).</p>

¹⁰ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system: i) its increase of vegetative cover in farms, including trees; ii) its decrease of agrochemicals of fossil origin (pesticides and fertilizers), iii) its contributions to decrease soil erosion, iv) its overall contribution to improve the quality of the landscape

¹¹ Colombia’s rural poverty rate is 68 percent (2005) and affects 8 million people, most of them small farmer families. The rural poor represent 36.5 percent of all the poor and 49 percent of all extremely poor.

3	Germany	<p>Is PES by service users a totally new practice in Colombia, or is there country experience with this practice? It appears doubtful whether the water users will accept this without considerable resistance.</p>	<p>Payments for water services have the greatest potential for long-term funding as ES users are easily identifiable and obtain well-defined services. Most PES schemes in Latin America focus on water services.</p> <p>Since 1992, Colombia pioneered payments for water services from irrigation and aqueduct users even before the ‘PES’ label was developed, and diverse mechanisms continue operating to date.</p> <p>The <i>RSPS Project</i> implemented in Colombia, Costa Rica, and Nicaragua between 2002 and 2008 measured and demonstrated the positive effects of SPS-related land use changes on valuable ES, including water quality. Farmers responded positively to PES and technical assistance offered under the project for the adoption of such changes in their production systems, particularly by implementing natural pastures with trees, mixed fodder banks, and live fences. At the Colombia site, PES recipients changed land use on 48 percent of their farm area, compared to less than 13 percent for members of a control group. Using the <i>RSPS Project’s Environmental Services Index</i>, service generation by PES recipients increased by 50%, compared to only 7 % for the control group.</p> <p>However the <i>RSPS Project</i> also demonstrated that, since many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services are externalities from the perspective of individual landholders, incentives are required to promote their adoption.</p> <p>Given that not all silvopastoral practices have the same profitability for farmers or contribute equally to the provision of environmental services, the project would apply three distinct strategies to ensure an efficient use of resources with maximum environmental impacts in each area: (i) initial support in the form of TA and facilitating access to credit to overcome the initial costs of adopting highly profitable SPS; (ii) short, and (iii) long-term PES, along with complementary market-based activities, to help change the mix of SPS to include a greater share of the more environmentally-friendly practices, and help induce adoption of SPS in areas where conditions make certain land uses unprofitable for farmers. Higher levels of payment would reward the provision of ES in key areas for biodiversity conservation such as connectivity corridors.</p> <p>Three areas have been preliminarily selected for project intervention given the opportunities identified for the establishment of long-term PES schemes. Potential ES buyers (water users) have expressed an interest in maintaining and improving water services and are aware of the role vegetative cover plays in their provision. Simplified ES valuation instruments would be used to help demonstrate project impacts, while helping farmers understand the levels of payment received. <u>For further details on the PES scheme for water services see PAD Annex 4A.</u></p>
4	Germany	<ul style="list-style-type: none"> • Where will certified products be marketed – within Colombia or overseas? – • Are producer associations & agribusinesses already active in the project areas? If not, there appears to be an excessive number of institutions involved in marketing, potentially increasing transaction costs and thus reducing the benefits for farmers 	<p>The initial project design included some activities that would have supported broadening FEDEGAN’s current meat certification scheme to include environmental criteria, marketing efforts, producer-buyer encounters and commercial agreements with trading companies. . These activities have been scaled back in light of the uncertain benefits to such schemes (given the costs of certification and the uncertain prospects of receiving a price premium).</p> <p>The project still includes some limited activities aimed at better understanding the potential for using certification mechanisms to encourage more sustainable livestock activities and the related benefits for farmers. FEDEGAN would finance business plans for the promotion of a SPS quality seal for beef and dairy products from participating farms (based on its recently launched, internationally-certified, quality seal for meat) and assess certification as an additional source of funding flows for the adoption of SPS.</p>

			<p>It is expected that the SPS quality seal for meat would benefit from the producer associations and agribusinesses active for the current quality seal for meat¹².</p> <p><u>For further details on how the project has considered this activity, please refer to PAD Annex 4: Detailed Project Description and PAD Annex 5: Project Costs</u></p>																																				
5	Germany	<ul style="list-style-type: none"> How many household/enterprises will be involved in agrotourism? Where the tourists are supposed to come from – domestic or international? The internal market for eco-tourism is very competitive, and hopes for a share in this market should not be put too high. 	<p>The current project design has limited its support efforts to design a proposal for market agro-ecotourism in farms where it is implemented, particularly in the coffee ecoregion and the low foothills of <i>Meta</i>. Linkages would be sought with the existing Agro and Ecotourism network and other organizations supporting sustainable rural tourism in Colombia. TNC would support agro-ecotourism efforts by helping interested farmers plan the financial sustainability of their services/activities, adapting its training tool developed for ecotourism in protected areas.</p> <p><u>For further details on this activity, please refer to PAD Annex 4: Detailed Project Description and PAD Annex 5: Project Costs</u></p>																																				
6	Germany	<p>The additional effects of SPS as carbon sinks may be overestimated, as pastures are already good carbon sinks – recent research suggests that they can be as efficient as forests as carbon sinks.</p>	<p>Carbon stocks measured in silvopastoral habitats were higher than in degraded lands, and GHG emissions were lower. The results of the GEF <i>Regional Silvopastoral Project</i> showed that SPS fix significant amounts of carbon in the soil and in the standing tree biomass. In the <i>Regional SPS Project</i>, GHG emissions were reduced through fewer applications of nitrogen-based synthetic fertilizers (urea and others), reduced use of fire as a pasture management tool, and improved animal nutrition (methane emission reductions were estimated at 21 percent and nitrogen dioxide emission reduction at 36 percent). Carbon removals were estimated at 1.5 Cton/ha/yr (Ibrahim, M. et. al., 2007).</p> <p>The following Table illustrates an ES index for carbon sequestration benefits, based on the experience of the <i>Regional SPS Project</i>.</p> <table border="1"> <thead> <tr> <th colspan="3">ES index for carbon sequestration services</th> </tr> <tr> <th><i>N</i></th> <th><i>o</i></th> <th><i>ES Score</i></th> </tr> <tr> <th></th> <th><i>Land use</i></th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Mature forests</td> <td>100</td> </tr> <tr> <td>2</td> <td>Secondary forests</td> <td>80</td> </tr> <tr> <td>3</td> <td>Pastures with high tree density and managed ecological succession</td> <td>70</td> </tr> <tr> <td>4</td> <td>Agroforestry crops (at least 2 stories/strata)</td> <td>70</td> </tr> <tr> <td>5</td> <td>iSPS¹ w/ woody species (including MFB²)</td> <td>60</td> </tr> <tr> <td>6</td> <td>Live fences and wind barriers (km)</td> <td>50</td> </tr> <tr> <td>7</td> <td>Forest plantations with grazing</td> <td>50</td> </tr> <tr> <td>8</td> <td>Agricultural and livestock lands with over 80% vegetative cover</td> <td>30</td> </tr> <tr> <td>9</td> <td>Degraded soils in degraded pastures</td> <td>0</td> </tr> </tbody> </table> <p>1 iSPS: Intensive Silvopastoral Systems. 2 MFB: Mixed Fodder Banks.</p>	ES index for carbon sequestration services			<i>N</i>	<i>o</i>	<i>ES Score</i>		<i>Land use</i>		1	Mature forests	100	2	Secondary forests	80	3	Pastures with high tree density and managed ecological succession	70	4	Agroforestry crops (at least 2 stories/strata)	70	5	iSPS ¹ w/ woody species (including MFB ²)	60	6	Live fences and wind barriers (km)	50	7	Forest plantations with grazing	50	8	Agricultural and livestock lands with over 80% vegetative cover	30	9	Degraded soils in degraded pastures	0
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7	Germany	<p>Proposal looks very top down: farmers are trained and are recipients of PES, but they do not appear to be actively involved in nature conservation. Are land care groups something which is totally alien to Colombians?</p>	<p>Despite their on-farm and off-farm benefits, demonstrated by the RSPS Project, SPS have only been adopted to a limited extent in Colombia due to the lack of knowledge of their existence, their high initial cost, and their technical complexity. Moreover, many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services, are perceived as externalities by individual landholders, who therefore have limited incentives to adopt them.</p>																																				

¹² Since its launch in November 2008 (preceded by two years of technical development), FEDEGAN's seal has been adopted by: 47 cattle ranching enterprises, 7 slaughterhouses, 2 meat-processing plants, and 2 hypermarkets (large retail facilities combining food, household merchandise, and other products such as clothes, furniture, appliances, electronics, toys, sporting goods, etc.). In addition, nearly 300 additional companies in the production chain are registered for certification, and 10 restaurants are also seeking to be certified. An estimated 2,800 dressed carcasses per month are placed in both hypermarkets that have adopted the seal.

			<p>To overcome these primary obstacles to adoption of SPS by farmers, the current project design has considered a strategy, led by key actor's in the subsectors development such as FEDEGAN, that includes technical assistance and facilitate access to credit to support adoption of SPS that area highly profitable for farmers. Short-term PES have also been considered for the adoption of practices that are profitable for farmers once established, but that are unattractive to farmers because of their high initial investment costs. Incentives under long-term PES mechanisms will be developed under the project for the adoption of practices that are not profitable form farmers even once established in specific areas that generate water benefits for downstream users.</p> <p>In the RSPS project, extensive training and knowledge transfer proved to be crucial to increase public awareness about the role of SPS in sustainable cattle ranching. The <i>RSPS Project</i> also measured and demonstrated the effects of using PES to induce farmers to adopt SPS and related land use changes. Farmers responded positively to PES and technical assistance offered under the project for the adoption of such changes in their production systems, particularly by implementing natural pastures with trees, mixed fodder banks, and live fences. At the Colombia site, PES recipients changed land use on 48 percent of their farm area, compared to less than 13 percent for members of a control group. Farmers positively valued the impact of sustainable natural resource management on the price of their land.</p> <p>Indeed, farmers can be turned into "protection agents": as demonstrated by the RSPS project, developing conversion plans for sustainable production systems on each farm, helps raise farmer's awareness about their role in protecting on-farm natural resources.</p>
8	Germany	Much of the co-financing is expected in kind – is this realistic?	<p>Total project cost is US\$42 million of which US\$35 million is co-financing. Most of the co-financing is expected to be in cash amounting US\$26 million.</p> <ul style="list-style-type: none"> • FINAGRO/MADR has earmarked nearly US\$22M in credit and ICR to support SPS adoption, which farmers would apply for via the first-tier banks operating with FINAGRO in project areas. • FEDEGAN will provide parallel co-financing of US\$3.3M, of which US\$1.85 M in cash. • FPAA would provide joint co-financing of US\$1.55M, of which US\$1.5 in cash for the PES Fund • TNC would provide parallel co-financing of US\$1.47M of which US\$0.86M in cash • CIPAV would provide parallel co-financing of which 0.63M in cash <p>Co-financing letters from project partner agencies (FEDEGAN, CIPAV, TNC, FPAA and FINAGRO) indicating and confirming the amounts they will be contributing to the project (cash and in-kind) have already been issued.</p>

Switzerland	We expect a far-reaching clarification of the project approach, particularly a clear geographical concentration of the activities, which will improve considerably its chances to achieve measurable impacts
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1	Switzerland	<p>It is not possible to understand the proposed PES mechanism and to assess its viability:</p> <ul style="list-style-type: none"> • What is the environmental problem and who causes it? • Which activities are envisaged to minimize those problems and to be financed by the PES? How relevant are these for the solution (to provide better water quality for the users)? • Who are the beneficiaries of the activities taken which assumingly should be ready for the payment of the ES in the long run? How willing are they to pay for such services? • Which arrangements are foreseen to achieve sustainability of the PES? • What legal basis exists to enforce the activities • Was the PES practice in the GEF regional project satisfactory to replicate the experience? More information should be available about the regional project PES results <p>We expect specification of the proposed PES mechanism (target population, goals, sustainability) and a summary of the experience considered in its design.</p>	<p>What is the environmental problem and who causes it?</p> <p>As with other agricultural activities, cattle ranching is carried out in areas where high poverty levels¹³, unequal income distribution, illiteracy, violence, and unequal land ownership prevail. About 38 percent of Colombia's total land surface is used for cattle ranching—an area that has expanded from 14.6 to 38 million hectares (ha) over the last fifty years, mostly at the expense of tropical forest. 82 percent of cattle ranchers have less than 50 animals per farm and face financial and technological limitations to participate in the subsector's development.</p> <p>Through its impact on Andean and Amazon Basin forests, ranching-induced deforestation has historically been one of the main causes contributing to the loss of unique plant and animal species in Colombia. Secondary Andean forest with high biodiversity (close to 20 species of birds monitored per check point) has been replaced with degraded pastures..</p> <p>Additionally, current livestock practices cause:</p> <ul style="list-style-type: none"> - On-site problems in pasture areas (i.e. declining pasture productivity). 66 percent of the land used as permanent pasture is degraded and otherwise unsuitable for grazing. Average stocking rates on these pastures are estimated at less than 1 animal per hectare. This problem affects farmers themselves, who have a strong incentive to address them. Many SPS practices would help to reduce or eliminate these problems, but they are often not adopted because of a combination of lack of information on the new practices (which can be complex to adopt) and the high initial costs involved. - Off-site problems in downstream areas, tied to impacts on water services (high erosion rates, contamination by manure, changes in runoff rates, among others). - Global problems in the form of low levels of carbon sequestration and biodiversity conservation. <p>Which activities are envisaged to minimize those problems and to be financed by the PES? How relevant are these for the solution (to provide better water quality for the users)?</p> <p>As demonstrated by the RSPS project, Silvopastoral Production Systems have a positive impact on the sustainability and productivity in many cattle ranching areas. Specifically, this project documented substantial benefits in terms of: farm productivity, biodiversity conservation, land improvement and carbon sequestration. Results also showed that SPS practices in riparian corridors can result in significant improvements in water quality. RSPS project monitoring on the quality of water in micro-catchments in Colombia in 3 years, evidenced reduced contamination and sedimentation levels. The RSPS project's Environmental Services Index generation (which includes water quality and flow regulation) by PES recipients increased by 50% compared to only 7% for the control group.</p> <p>Based on the RSPS project, the proposed project is adopting a three-pronged strategy to induce the adoption of environment-friendly SPS practices: i) TA and facilitate access to credit to support adoption of practices that are highly profitable for farmers¹⁴; (ii) short-term PES for the adoption of practices that are profitable for farmers once established, but that are unattractive to farmers because of their high initial investment costs; and (iii) long-term PES for the adoption of practices that are not profitable for farmers even once established in specific areas that generate water benefits for downstream users.</p> <p>The impact of introducing SPS in farms on water quality and flow regulation would be measured in the high basin of the Quindio River and the Tulua River basin, as they have been prioritized for the establishment of long-term PES schemes financed by local ES users. In each basin, two nearby microcatchments of similar characteristics would be monitored: one where project activities are taking place and the other without project intervention. Water flow and sedimentation levels would be monitored in each microcatchment throughout project.</p> <p><u>For further details on project activities and the PES scheme please refer to the PAD (Annex 4 Detailed Project Description and Annex 4A Payments for Environmental Services Scheme).</u></p>
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¹³ Colombia's rural poverty rate is 68 percent (2005) and affects 8 million people, most of them small farm families. The rural poor represent 36.5 percent of all the poor and 49 percent of all extremely poor.

¹⁴ Profitability here is measured relative to the most profitable alternative, not in absolute terms.

Who are the beneficiaries of the activities taken which assumingly should be ready for the payment of the ES in the long run? How willing are they to pay for such services?

The project would develop local PES mechanisms, in at least two cattle production areas, financed by service users that would offer long-term payments for land uses that are important for ES provision, but are unattractive to farmers such as establishing riparian corridors and native forests.

Three areas have been preliminarily selected for project intervention given the opportunities identified for the establishment of long-term PES schemes.

Potential ES providers would be upper basin cattle ranching farms. Potential ES buyers (water users) have expressed an interest in maintaining and improving water services and are aware of the role vegetative cover plays in their provision. Potential service users would include public/private water utilities, hydroelectric power stations, and/or irrigation districts which require adequately conserved areas for water catchments and would benefit from improved water quality and regulation.

Table 1 : Potential for long-term PES schemes in project areas

<i>Area</i>	<i>Water ES</i>	<i>Interested ES buyers</i>
Quindío River	Regional potable water supply	Public water utilities (Armenia and Salento) Regional Environmental Authority (public)
	Hydroelectric power generation (2)	Public energy utility (Medellín)
Río Frío, Antioquia	Municipal water supply (2)	Public water utilities Fruit-cropping company (private)
	Agroindustrial irrigation	Sugar cane agroindustry (private)
Tulúa-Morales Rivers	Municipal water supply (several)	Public water utilities

See PAD Annex 4A for further details of the proposed long-term PES scheme.

Which arrangements are foreseen to achieve sustainability of the PES?

Adoption of intensive SPS is likely to be highly sustainable, given their very high profitability once technical complexities and high initial costs are overcome. Indeed, with adequate access to financial resources, farmer training and TA and a strategy for information dissemination, it can be expected that there will be substantial spontaneous adoption outside the project areas, and beyond the end of the project.

The silvopastoral practices adopted with the support of short-term PES are also likely to be maintained beyond project end, as these practices are profitable once established. Indeed, no abandonment of similar practices in the Regional Silvopastoral Project's Quindío site has been noted since that project made its last payment in 2007.¹⁵ However, without short-term PES, there is little chance of spontaneous adoption of silvopastoral practices beyond the end of the project because of their high investment costs. While the maintenance of the benefits gained under this project is not in doubt, the continued expansion of these practices past project end would be dependent on securing additional funding to make short-term PES payments. Payments for the carbon sequestered by silvopastoral practices could provide one source of such funding, assuming the Clean Development Mechanism is renewed with reasonable rules on eligibility of forest-based carbon and on the amounts of forest-based carbon that can be used to meet commitments.¹⁶

For further details, see PAD Chapter III, paragraph D. Sustainability and Replicability, Annex 4A PES scheme and Annex 9: Economic and Financial Analysis.

¹⁵ As part of this project's monitoring efforts, re-surveys of all Quindío Silvopastoral Project participants (including the control group), are planned at the beginning and end of implementation. This will give observations of land use patterns of the Quindío PES recipients about three and eight years after payments ended, thus allowing the sustainability of the practices to be examined in detail.

¹⁶ The results of the Silvopastoral Project suggest that carbon financing could be a viable source of funding for silvopastoral practices, even if it had to bear the whole burden of payments. The Silvopastoral Project demonstrated that a US\$75/point/year payment induces substantial land use change. If such a payment were solely for carbon sequestration, it would correspond to US\$15/tC, or US\$4.1/tCO_{2e} — quite compatible with prices of US\$4–5/tCO_{2e} paid by the BioCarbon Fund for CDM-compliant forestry-based emissions reductions, as long as transaction costs are kept low.

1 (cont)	Switzerland		<p>What legal basis exists to enforce the activities</p> <p>Legal and policy frameworks are described in PAD Annex 1 <i>Country and Sector or Program Background</i></p> <p>Was the PES practice in the GEF regional project satisfactory to replicate the experience? More information should be available about the RSPS project PES results.</p> <p>The RSPS Project implemented in Colombia, Costa Rica, and Nicaragua between 2002 and 2008, demonstrated that PES can induce significant land use change in areas of extensive pasture¹⁷. At the project's site in Quindío, Colombia, some form of the land use change occurred on 1258ha (44% of total area). Changes ranged from minor (such as sowing improved grasses in degraded pastures) to very substantial (such as planting high-density tree stands or establishing fodder banks). The area of degraded pasture fell by over 90%, and the area of natural pastures without trees declined by two thirds. Most of the gains were experienced in pastures with high tree density, which increased from almost nothing to 334ha. The area of fodder banks increased relatively little (from less than 5ha to over 28ha), but that of intensive silvopastoral systems (Leucaena planted at 5000 trees/ha) increased substantially (from 0ha to 130ha). About 346km of live fencing were established. The land use changes undertaken by PES recipients were vastly greater than those observed in the control group – less than 13% of the control group's land experienced any change. Using the RSPS Project's Environmental Services Index, service generation by PES recipients increased by 50%, compared to only 7 % for the control group.</p> <p>While the RSPS Project's approach to PES proved very successful in Quindío, it also faced some significant limitations. The short-term PES approach used by the project only succeeded in inducing the adoption of practices that had high long-term on-site benefits for farmers. Many land uses that would have provided significant environmental benefits, such as riparian forests, were only adopted to a very limited extent, or not at all. Conversely, it became clear that some of the practices supported with PES were sufficiently profitable to be adopted even without payments.</p> <p><u>Best practices on PES schemes, particularly key lessons from the RSPS project, have been incorporated into project design. For further details, see PAD Chapter II Project Description, paragraph D; Annex 4A Payments for Environmental Services Scheme and Annex 9: Economic and Financial Analysis.</u></p> <p>We expect specification of the proposed PES mechanism (target, population, goals, sustainability) and a summary of the experience considered in its design.</p> <p>As mentioned earlier, the project design draws on the experience of two types of projects: (i) those implementing PES approaches to natural resource management and to a lesser extent to agricultural productivity, and (ii) several rural development initiatives in Colombia (see PAD Annex 2 <i>Major related projects financed by the Bank and/or other agencies</i>).</p> <p><u>Best practices on PES schemes, particularly key lessons from the RSPS Project have been incorporated into project design. For further details of the proposed PES mechanism (target population, goals and sustainability) see PAD Chapter II Project Description, paragraph D; Annex 4A Payments for Environmental Services Scheme and Annex 9: Economic and Financial Analysis</u></p>
2	Switzerland	<p>The geographical area is too dispersed, which substantially affects the chances of a successful implementation and of achieving any significant project impact – it implies a wide variation of:</p> <ul style="list-style-type: none"> geographical characteristics to consider 	<p>The geographical area is too dispersed, which substantially affects the chances of a successful implementation and of achieving any significant project impact. Need for detailed information on the project areas, and the additional efforts required in this respect due to the extension and diversity of the areas</p> <p>The project will concentrate its activities in 5 target regions, which were selected for their high levels of biodiversity and their proximity to strategic ecosystems and protected areas. Biodiversity assessments completed during project preparation helped</p>

¹⁷ The Silvopastoral Project's impact on land use change in Quindío is analyzed in detail in Pagiola and Rios (2009).

	<ul style="list-style-type: none"> • legal frameworks to adapt to • institutional authorities to cooperate with • environmental problems to be tackled with –requiring a sound adaptation of the PES mechanism to several local conditions <p>From our point of view, such a wide geographic focus is simply too ambitious and <u>we doubt whether this proposal satisfies the criteria of cost-effectiveness</u>, whether it can be managed in an efficient way, and if it can generate any relevant impact.</p> <p>Need for detailed information on the project areas, and the additional efforts required in this respect due to the extension and diversity of the areas.</p>	<p>determine key natural ecosystem remnants in each area, as well as the priority axes along which to connect and conserve them during project implementation; such axes are located along water courses or in terrestrial areas in selected cattle ranching landscapes (see site selection criteria in PAD Annex 10: <i>Safeguard Policy Issues</i>):</p> <ul style="list-style-type: none"> • The Cesar River Valley and Magdalena River regions contain the last remaining fragments of dry tropical forest, considered one of the Neotropical zone’s most endangered ecosystems – degraded in 98.5 percent of its surface area in Colombia. Other strategic ecosystems are the wetlands associated with the Magdalena River, considered of high priority by IUCN and TNC due to the existence of migratory birds and endemic species. • The Boyacá-Santander region contains the Andean Oak Forests Corridor, one of the richest areas of vascular plants in the Andean region, harboring populations of several endangered species (e.g., mammals such as the Puma concolor, birds such as the gorgeted wood-quail, and endemic frogs such as the Gámbita robber frog and Eleutherodactylus spilogaster). • The coffee-growing ecoregion concentrates most of Colombia’s coffee landscapes, where about 16% of the country’s 1,750 bird species have been registered (including multiple endemic, threatened, and migratory species), along with several threatened flagship species such as the spectacled bear (<i>Tremarctos ornatus</i>), and butterfly species both endemic and new to science. • The southern Meta region is part of the larger Eastern plains that have a diverse landscape of dry forests, tropical grasslands, and seasonally flooded plains–ecosystems traditionally underrepresented in the Colombian protected areas system. <p>Despite apparent geographical dispersion, FEDEGAN has technical assistance centers serving each targeted region, whose personnel will be trained with project resources to provide technical assistance for the adoption of the desired land use changes.</p> <p>CIPAV and TNC are key partners in monitoring and evaluating biodiversity impacts, both having ample experience in working with local partners throughout the country to guarantee cost-effectiveness.</p> <p>In addition, stakeholders such as the DNP, the MAVDT, the MADR/FINAGRO and the Regional Environmental Authorities (CARs) with jurisdiction in each of the project’s area, have been and continue to be actively engaged in project implementations, so as to ensure that the proposed strategy for the broader adoption of environment-friendly cattle ranching production systems in Colombia is validated and scaled-up.</p> <p>Project impact is closely related to the scale and coverage of project activities. The RSPS Project already proved successful working with one riverbank with 79 farms in Colombia. The strategy proposed by the current project will facilitate cattle-ranching conversion in multiple regions having different environmental and productive settings. Then, the project and its partners will have enough evidence to promote a sector policy enforcing SPS and biodiversity-friendly land uses changes in the remaining 41 million hectares used inefficiently today for cattle ranching in Colombia.</p> <p>A financial and cost-effectiveness analysis was carried out for the project proposal and its results are in <u>PAD Annex 9: <i>Economic and Financial Analysis</i></u>. The results overall cost-effectiveness analysis from the GEF perspective concluded that the overall cost of the land use changes induced by the project is US\$401/ha of forest equivalent, omitting the contribution from component 2.2. This is substantially less than the cost of the land use changes induced by the RSPS Project, which came to about US\$680/ha in payments alone¹⁸. This improvement is due to the new, three-pronged strategy that</p>
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¹⁸ In the Silvopastoral Project’s Quindío site, there was some form of land use change on 1,258 ha, which increased average environmental service points by 0.33/ha, giving 415 ha of forest equivalent. The total increase in environmental service points was 945, which at US\$75/point per year over 4 years required US\$283,000 in payments from the Project. Thus average payments came to US\$280/ha of forest equivalent. Note that this excludes the transaction costs of making payments, and the substantial expenditures devoted to monitoring. The latter are properly excluded, however, as the project was intended to be a pilot for future projects. Indeed, this project depends heavily on lessons and data generated by the Regional Silvopastoral Project.

			focuses GEF resources on those land use changes where they are indispensable to induce land use change.
3	Switzerland	<p>The strategy on biodiversity conservation is only very vaguely defined – we therefore expect:</p> <ul style="list-style-type: none"> the biodiversity conservation strategy, especially at landscape scale, to be further specified further specification of the indicators regarding biodiversity 	<p>Biodiversity conservation strategy</p> <p>Traditional conservation approaches that take land entirely out of production would be very costly, socially infeasible, and would generate negative farmer response. Project areas were selected based on different criteria among which were their proximity to Protected Areas and high levels of globally important biodiversity.</p> <p>As areas have been chosen taking into account their geographic proximity to PA enhanced connectivity between ecosystems would also include connectivity to PA and their buffer zones. This would allow for the mutual reinforcement of biodiversity protection within cattle ranching farms and PA buffer zones, enhancing the benefits from SPS.</p> <p>The positive global and local environmental benefits of SPS, as demonstrated by the Regional SPS Project, include: (i) substantial increases in biodiversity (among other indicators, both the number of species of birds observed and the number of individuals increased, including many forest-dependent and endangered species); (ii) substantial carbon sequestration both directly (carbon stored in the soil and in trees) and indirectly (by inducing fewer applications of nitrogen fertilizers—which were substituted with nitrogen fixing plants, by significantly reducing the use of fire as a pasture management tool, and by reducing methane emissions from cattle through improved nutrition). Carbon stocks measured in silvopastoral habitats were higher than in degraded lands, and GHG emissions were lower; (iii) improved water quality (a rapid drop in turbidity, biological oxygen demand, and coliform counts was registered as riverbanks were reforested and protected from livestock entry, as well as the return of invertebrates indicative of unpolluted water); (iv) improvements in soil retention and productivity; (v) land rehabilitation; (vi) diversification of farm benefits; and (vii) scenic beauty enhancement.</p> <p>As for the project’s biodiversity strategy at landscape level, it comprises: increasing tree and shrub density in productive systems to furnish fauna with <i>stepping one</i>; increasing total extension of live fences; enriching existing live fences with local flora species. These tools improve ecological connectivity with impacts not only in terms of flora but also fauna, as proven through field work during the RSPS project that verified the increase in the presence of biodiversity in participating farms that adopted SPS.</p> <p>Moreover, implementing the objectives of the national biodiversity strategy in intervened landscapes and biodiversity valuation and sustainable use processes, among others, will provide additional support for a more massive adoption of these productive systems proven to be biodiversity-friendly.</p> <p><u>For further details, please refer to PAD Annex 10 A: <i>Biodiversity-based methodology for site selection</i></u></p>
3 (cont)	Switzerland	<p>The strategy on biodiversity conservation is only very vaguely defined – we therefore expect:</p> <ul style="list-style-type: none"> the biodiversity conservation strategy, especially at landscape scale, to be further specified further specification of the indicators regarding biodiversity 	<p>Further specification of the indicators regarding biodiversity</p> <p>Key performance indicators for biodiversity would include:</p> <ul style="list-style-type: none"> 50,500 ha of environment-friendly cattle ranching production systems implemented in 5 project areas Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS implemented in participating farms in project areas, over baseline: <ul style="list-style-type: none"> 38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented in terrestrial and riparian connectivity corridors) 50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species 50% of water springs and streams present in intervened project areas

			<p>protected with riparian buffers</p> <p>To measure the impact of introducing SPS in farms on the provision of ES, four services will be analyzed: biodiversity conservation, land restoration, carbon sequestration and water quality.</p> <p>The impact on biodiversity conservation of prioritizing project interventions in connectivity corridors would be measured by annually comparing the presence of bird and focal plant species in two land uses (pastures with trees and secondary forests) in beneficiary farms located outside connectivity corridors against those located in corridors. At least five plots per land use would be monitored in three of the five project areas. Biodiversity of aquatic organisms would be assessed in riparian connectivity corridors effectively established and selected for their bio-geographical importance.</p> <p><u>For further details on the M&E proposal for biodiversity conservation please refer to PAD Annex 3: Results Framework and Monitoring</u></p>
4	Switzerland	<ul style="list-style-type: none"> • There is a lack of information about the certification system foreseen for beef and dairy products (we expect detailed information on the certification system) • Analogously, on the topic of agro-tourism. 	<p>Provide detailed information on the certification system</p> <p>These activities have been scaled back in light of the uncertain benefits to such schemes (given the costs of certification and the uncertain prospects of receiving a price premium). The proposed project still includes some limited activities in Component 1, financed by FEDEGAN (US\$20,000), aimed at better understanding the potential for using certification mechanisms to encourage more sustainable livestock activities.</p> <p>Analogously, on the topic of agro-tourism</p> <p>Agro-ecotourism development: the current project proposal has limited its support efforts to design a proposal, financed by TNC and FEDEGAN (US\$48'000), for market agro-ecotourism in farms where it is implemented, particularly in the coffee ecoregion and the low foothills of Meta. TNC would support agro-ecotourism efforts by helping interested farmers plan the financial sustainability of their services/activities, adapting its training tool developed for ecotourism in protected areas. Linkages would be sought with the existing Agro and Ecotourism network and other organizations supporting sustainable rural tourism in Colombia.</p> <p><u>For further details on how the project has considered these activities, please refer to PAD Annex 4: Detailed Project Description and PAD Annex 5: Project Costs</u></p>
5	Switzerland	<p>The institutional set-up has to be clarified:</p> <ul style="list-style-type: none"> • Who will assure the effectiveness of the SPS regarding biodiversity conservation and the expected related impact in the project areas? Is FEDEGAN the optimal partner to assure the development of biodiversity-friendly SPS? • The role of the CIPAV is not sufficiently clear – considering it is possibly the Colombian research institution with the most experience of biodiversity in the context of SPS, we would welcome it if its role, particularly with respect to the project component 1, were specified more explicitly 	<p>Institutional set-up</p> <p>The project's main partnership for implementation and co-financing purposes is an alliance between FEDEGAN, CIPAV, FPAA, and TNC. This partnership arrangement dates back to 2005 when progress under the RSPS Project encouraged FEDEGAN and CIPAV to seek a scaling-up operation that coincided with the subsector's interest in promoting a sustainable production culture. FPAA and TNC joined the initiative given their interest in stimulating private sector participation and investments in biodiversity conservation and sustainable natural resource use. The opportunity to work directly with the cattle ranching association, traditionally unaware of the environmental and social considerations promoted by the project, was capitalized by all agencies involved. This project partnership has worked effectively in the preparation and approval of the proposed project.</p> <p>An institutional assessment was conducted to evaluate the strengths and weaknesses of each agency, along with an assessment of the reputational risk involved in partnering with FEDEGAN¹⁹ (see PAD Annex 6A). Recommendations from both assessments have been taken into account to determine these implementation arrangements, which positively valued the proposed collective management to further enhance the message of the subsector's transformation. The general recommendation is to maintain the four agencies as implementation partners, with clearly assigned responsibilities, to ensure</p>

¹⁹ Reputational risk assessment concluded that there is a moderate risk of FEDEGAN, in its capacity as the cattle ranchers' professional association in Colombia, to be perceived as directly involved with illegal armed groups. However, the assessment highlights FEDEGAN's good standing with the GoC and full support from State entities involved in the sector, as well as its good reputation in several regions selected for project intervention.

	<ul style="list-style-type: none"> • By whom and how will the projects impact in terms of biodiversity conservation be evaluated? • What is the strategy to evaluate the impact of the converted landscapes to SPS and biodiversity-friendly land-use practices, on the conservation of the biodiversity of the endangered ecosystems? 	<p>project success.</p> <p>FEDEGAN has played a key role in ensuring project impact, both through its leadership in favor of the subsector’s development and its interest in the subsector’s transformation towards sustainable production models, as well as its ample experience in the administration of public funds and project execution by delegation of the GoC²⁰.</p> <p>CIPAV would have a technical role in project implementation, which includes: (i) training FEDEGAN’s technicians and other TA providers in project areas in SPS implementation; (ii) undertaking baseline farm assessments jointly with TNC; (iii) supporting PES negotiations and contracts to be signed by FPAA as the PES special account administrator; (iv) supporting TA provision for SPS adoption to participating farmers; (v) helping set up an M&E system to track generation of ES and contract compliance, including a protocol to monitor ES provision at the farm level; (vi) verifying on-site land use changes and certifying PES contract compliance; and (vii) leading applied research and studies. CIPAV and TNC, with FPAA support, would jointly monitor ES generation.</p> <p>Final and intermediate outcome indicators included in the project’s results framework would be monitored as per arrangements included in the table <i>Arrangements for Results Monitoring</i> in PAD Annex 3: <i>Results Framework and Monitoring</i>, indicating the type and frequency of reports and the project partner responsible for data collection. The information would be compiled by the Project Implementation Team (PIT) with Core partner agency support, particularly regarding biodiversity and ES provision. An M&E protocol would be developed by CIPAV and TNC detailing procedures and indicators at the farm, the landscape, and the ecoregion levels. This protocol would be transferred to FEDEGAN and FPAA for their enrichment and use, or be directly administered by CIPAV and TNC. Information collection and analysis of these indicators would take place on a periodic basis, with active participation by farmers where possible.</p> <p><u>Please refer to Annex 6: <i>Implementation Arrangements</i> for further details</u></p> <p>Strategy to evaluate the impact of the converted landscapes to SPS and biodiversity-friendly land-use practices, on the conservation of the biodiversity of the endangered ecosystems</p> <p>To determine the effectiveness of the proposed PES scheme to promote farmer adoption of the desired SPS and related land use changes, a control group of cattle ranchers randomly selected from eligible beneficiaries (registered during the project’s local dissemination events during PY1 and 2 and verified by the project’s Steering Committee as complying with selection criteria per region) would be established.</p> <p>Farmers in the control group (approximately 500 in total) would have access to training and technical assistance under the project but would not benefit from PES. Farmers in the treatment group (1,500 in total) would also be randomly selected from the potential beneficiary list compiled during PY1 and 2 and benefit from all project instruments, including PES. For at least 3 years, farms in both groups would be monitored once a year to measure land use changes adopted and compare against baseline values determined during initial farm surveys conducted by FEDEGAN and Core partner agencies.</p> <p>Annual verification of land use changes would serve to certify compliance with PES contracts and determine payment levels, as well as measure farm area under each land use listed in the Environmental Service Index and its change in ha. regarding baseline. By project end, data for this coverage indicator in control vs. treatment farms would enable a comparison as to the effectiveness of PES to induce adoption of SPS-related</p>
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²⁰ Pursuant to Laws 89 and 101 of 1993, FEDEGAN has been entrusted by the MADR with the administration of the National Cattle Fund and the Stabilization Fund for the promotion of beef, dairy, and sub-product exports, both of which collect non-fiscal taxes from producers to reinvest in the subsector’s development. In 2008, resources under the two funds totaled over US\$30M nominal value. In addition, FEDEGAN has entered into cooperation agreements with the Colombian Institute for Agriculture and Livestock (ICA) to support the national foot-and-mouth disease eradication campaign, and with the National Learning Service (SENA) for the specialized training of cattle ranching enterprises, executing nearly US\$3.2M of GoC resources in 2008. Under the WB-financed project for Agricultural Transition in Colombia (a US\$30M loan to the MADR), FEDEGAN is also leading country efforts in sanitary and phytosanitary systems for the subsector, and is actively participating in the construction of a Prospective Research and Development Sector Agenda.

		<p>land use changes.</p> <p>To measure the impact of introducing SPS in farms on the provision of ES in each region, four services would be analyzed: biodiversity conservation, land restoration, carbon sequestration and water quality. At least three SPS-related land uses (intensive SPS, live fences, and trees in pastures) would be monitored for bird and focal plant species present at project start and during implementation in five plots per land use per region, and compared against levels in well-preserved forests and pastures without trees. Baseline inventories of species would be undertaken at project start and each year until project end.</p> <p>The impact on biodiversity conservation of prioritizing project interventions in connectivity corridors would be measured by annually comparing the presence of bird and focal plant species in two land uses (pastures with trees and secondary forests) in beneficiary farms located outside connectivity corridors against those located in corridors. At least five plots per land use would be monitored in three of the five project areas. Biodiversity of aquatic organisms would be assessed in riparian connectivity corridors effectively established and selected for their bio-geographical importance.</p> <p>The impact of introducing SPS in farms on land restoration would be measure in beneficiary farms that implement any or all SPS and are located in the Caribbean region and the high slopes of the coffee growing ecoregion. The increase in vegetation cover (has) would be assessed against baseline values of farm areas without cover and annually measured on-site. The density and abundance of worms and dung-feeding beetles would also be measured as an indicator of soil recovery, with measurements taken prior to project start in selected farms and three years after the adoption of SPS-related land use changes.</p> <p>Land use changes would be monitored with the support of remote sensors such as satellite images, aerial photographs, and Global Positioning Systems (GPS) according to the availability of these resources in each area. Information provided by these sensors would be processed in Geographic Information System (GIS) software, once land use changes have been verified in situ.</p> <p><u>For further details on the M&E strategy please refer to PAD Annex3: <i>Results Framework and Monitoring</i>.</u></p>
Switzerland	<p>We insist that our comments and concerns be taken into account and responded to in the further development of this project. We would not be able to agree to final GEF approval unless the main concerns we are raising in this comment are clearly resolved.</p>	<p>Switzerland concerns have been adequately addressed throughout the PAD, particularly in Annex 1 (Program Background), Annex 3 (Results Framework and Monitoring), Annex 4 (Detailed Project Description); <i>Annex 4A</i> (Payments for Environmental Services Scheme); Annex 6 (Implementation Arrangements), Annex 9 (Economic and Financial Analysis), Annex 10 (Safeguard Policy Issues) and Annex 10 A (Biodiversity-based methodology for site selection).</p>

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES

<i>Position Titles</i>	<i>\$/ Person week*</i>	<i>Estimated person weeks**</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
General Coordinator	1275	240	Overall project implementation
Administrative Coordinator	637	240	Administrative planning and supervision of budget implementation, administrative assessments and reports
4 Field professionals	526	960	Field visits to project areas, TA coordination and verification
International			
0	0	0	0
Justification for Travel, if any: Travel costs are associated with supervision of project implementation, including TA coordination and verification			
For Technical Assistance			
<i>Position Titles</i>	<i>\$/ Person week*</i>	<i>Estimated person weeks**</i>	<i>Tasks to be performed</i>
Local			
2 SPS Experts	711	4	SPS training to TA providers through local workshops.
4 SPS Experts	667	8	SPS training to farmers through local workshops
3 SPS TA providers	444	288	Provide assistance to TA providers and farmers in SPS related land use planning and implementation in participating farms.
7 TA providers for SPS& PES	344	168	Provide technical assistance in SPS& PES to farmers in participating farms for land use change adoption during PY1
19 TA providers for SPS& PES	361	912	Provide technical assistance in SPS& PES to farmers in participating farms for land use change adoption during PY2
24 TA providers for SPS& PES	379	1152	Provide technical assistance in SPS&PES to farmers in participating farms for land use change adoption during PY3
12 TA providers for SPS& PES	398	576	Provide technical assistance in SPS& PES to farmers in participating farms for land use change adoption during PY4
12 TA providers for SPS& PES	418	576	Provide technical assistance in SPS& PES to farmers in participating farms for land use change adoption during PY5
Technical Coordinator	278	240	Supervises sector technologies applied in each project area for SPS implementation
SPS Specialist	222	96	Farm assessments for SPS implementation
2 SPS Field Assistants	111	192	Support farm assessments for SPS implementation
Research Specialist (Phenology and propagation of species)	200	240	Farm level analysis to validate/adjust connectivity corridors
2 Focal species consultants	556	16	Support and supervise focal species

			selection, reproduction and introduction in participating farms
5 Field assistants	44	1200	Provide TA in reproduction and introduction of focal species in participating farms
1 Technical Coordinator	278	240	Supervises arrangements for SPS practices
1 SPS Research Specialist	222	144	Research for SPS practices to be implemented in each area, including suitable tree density and species for local conditions in each area
3 Field Assistants	111	360	Support assessments for SPS practices
Communication Strategy Consultant	637	240	Design the communication strategy of the project
International			
0	0	0	0
Justification for Travel, if any: Travel costs are associated to provision of TA and supervision of project implementation			

* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

The objective of the PPG has been met. As per the PPG's closing date (September 15, 2009), CIPAV has implemented all the previewed project preparation activities: necessary assessments were performed, gap analyses were carried out; the M&E framework has been set up and baseline data has been collected. All the stated outputs are satisfactory, including the design of the project and the Project Appraisal Document (PAD).

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

NONE

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To Date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount *</i>	
Necessary assessments performed		105.182	104.214	-	-	92.000
a. Institutional assessment	Completed	10.000	18.750	-	-	-
b. Social Assessment	Completed	15.000	12.500	-	-	15.000
c. Environmental assessment	Completed	10.000	8.750	-	-	9.500
d. Market study for Environmental Services with PES scheme proposal	Completed	23.426	17.914	-	-	22.000
e. SPS eligibility per region (including financial return per SPS)	Completed	23.426	30.286	-	-	27.500
f. Market study for certified beef & dairy products and agroecotourism	Completed	13.330	6.000	-	-	10.000
g. Assessments-related travel	Completed	10.000	10.014	-	-	8.000
Gap analyses carried out		11.625	5.000	-	-	8.500
a. Barriers analysis (local	Completed	6.425	-	-	-	

barriers impeding the widespread adoption of SPS)						-	5.500
b. Standards analysis for cattle ranching certification (vs. international best practices)	Completed	5.200	5.000	-	-	-	3.000
M&E framework set up		34.950	10.000	-	-	-	13.500
a. Impact evaluation design	Completed	15.000	10.000	-	-	-	3.000
b. M&E set up	Completed	19.950	-	-	-	-	10.500
Baseline data collection		68.243	101.515	-	-	-	137.000
Information collection for biodiversity assessment	Completed	23.000	10.000	-	-	-	69.000
Additional data not acquired by consultancies	Completed	0		-	-	-	15.000
Community-based info. collection and discussion	Completed	20.000	21.795	-	-	-	14.000
Equipment	Completed			-	-	-	9.000
Research assistant for field data collection	Completed	19.950	29.000	-	-	-	10.000
Miscellaneous	Completed	5.293	40.720	-	-	-	20.000
Total		220.000	220.729*	0	0	0	251.000

*US\$ 729 of banking costs have been refunded to the project account

ANNEX E: CALENDAR OF EXPECTED REFLOWS

Provide a calendar of expected reflows to the GEF Trust Fund or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: ABBREVIATIONS AND ACRONYMS

AGROECOTUR	National Network of Agroecotourism and Ecotourism
AM	Aide Memoire
CAR	Regional Environmental Authority
CIPAV	Center for Research on Sustainable Agricultural Production Systems
CORPOICA	Colombian Agricultural Research Corporation
CRQ	Regional Environmental Authority of Quindío
CVC	Regional Environmental Authority of Valle del Cauca
DAS	Administrative Department of Security
DNP	National Planning Department
EA	Environmental Analysis
ES	Environmental Services
FEDEGAN	Colombian Cattle Ranching Association
FINAGRO	Fondo para el Financiamiento del Sector Agropecuario (Fund for Agricultural and Livestock Sector Financing)
FM	Financial Management
FMA	Financial Management Assessment
FNG	Fondo Nacional del Ganado (National Cattle Fund)
FPAА	Fondo para la Acción Ambiental y la Niñez (Environmental Action and Childhood Fund)
GEF	Global Environment Facility
RSPS Project	The GEF/IBRD <i>Regional Integrated Silvopastoral Approaches to Ecosystem Management</i> Project
GHG	Green House Gases
GIS	Geographic Information System
GoC	Government of Colombia
GPEP	Good Production and Environmental Practices
GPS	Global Positioning System
IAvH	Alexander von Humboldt Institute of Biodiversity Research
IBRD	International Bank for Reconstruction and Development
ICA	Instituto Colombiano Agropecuario (Colombian Institute for Agriculture and Livestock)
ICR	Incentivo a la Capitalización Rural (Rural Capitalization Incentive)
IDA	International Development Association
IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales (Institute of Hydrology, Meteorology and Environmental Studies)
IFR	Interim Financial Reports
INCODER	Instituto Colombiano para el Desarrollo Rural (Colombian Institute for Rural Development)
IPM	Integrated Pest Management
iSPS	Intensive Silvopastoral Production System
IUCN	International Union for Conservation of Nature
LOA	World Bank Loan Department
MADR	Ministry of Agriculture and Rural Development
MAVDT	Ministry of Environment, Housing and Territorial Development
MFB	Mixed Fodder Bank
MIS	Management and Information System
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
MTR	Mid-Term Review
NDP	National Development Plan
NPAS	National Protected Areas System
OM	Operational Manual
PA	Protected Areas
PAD	Project Appraisal Document
PIT	Project Implementation Team
PES	Payments for Environmental Services
POA	Annual Operative Plans
PY	Project Year
REDD	Reducing Emissions from Deforestation and Forest Degradation
SENA	Servicio Nacional de Aprendizaje (National Learning Service)
SMMLV	Monthly Minimum Legal Wage in Force
SPS	Silvopastoral Production System
TA	Technical Assistance
TECNIGAN	FEDEGAN's Regional Technological Service Centers

TFCA	Tropical Forest Conservation Act
TTL	Task Team Leader
TNC	The Nature Conservancy
TOR	Terms of Reference
UAESPNN	Administrative Unit of the National Natural Park System

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Report No:

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF USD \$7 MILLION

TO THE

COLOMBIAN CATTLE RANCHING ASSOCIATION

FOR A

MAINSTREAMING SUSTAINABLE CATTLE RANCHING PROJECT

September 2009

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August X, 2009)

Currency Unit = Colombian Pesos
2090.3 = US\$1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AICA	Area of Importance for Bird Conservation
AGROECOTUR	National Network of Agroecotourism and Ecotourism
AM	Aide Memoire
ANH	Agencia Nacional de Hidrocarburos (National Hydrocarbons Agency)
ASOGANS	Cattle Rancher Association of the north of Caldas and southwest of Antioquia
AU	Animal Unit
AUC	Autodefensas Unidas de Colombia (Illegal Armed Group)
BNA	Bolsa Nacional Agropecuaria (National Agriculture and Livestock Market)
BOD	Biological Oxygen Demand
CAR	Regional Environmental Authority
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CBD	Convention on Biological Diversity
CDM	Clean Development Mechanism
CGR	Office of the Comptroller General of the Republic of Colombia
CIPAV	Center for Research on Sustainable Agricultural Production Systems
COLCIENCIAS	Colombian Science and Technology Institute
COOGANCEVALLE	Cattle Ranching Cooperative of Northern and Center of Valle
CORANTIOQUIA	Regional Environmental Authority of Antioquia
CORPOICA	Colombian Agricultural Research Corporation
CPS	Country Partnership Strategy
CRQ	Regional Environmental Authority of Quindío
CVC	Regional Environmental Authority of Valle del Cauca
CY	Calendar Year
DA	Designated Account
DAS	Administrative Department of Security
DNP	National Planning Department
EA	Environmental Analysis
EAI	Enterprise for the Americas Initiative
ELN	Ejército de Liberación Nacional (Illegal Armed Group)
ES	Environmental Services
FARC	Fuerzas Armadas Revolucionarias de Colombia (Illegal Armed Group)
FEDEGAN	Colombian Cattle Ranching Association
FINAGRO	Fondo para el Financiamiento del Sector Agropecuario (Fund for Agricultural and Livestock Sector Financing)
FM	Financial Management
FMA	Financial Management Assessment
FNG	Fondo Nacional del Ganado (National Cattle Fund)
FPAA	Fondo para la Acción Ambiental y la Niñez (Environmental Action and Childhood Fund)
GEF	Global Environment Facility
RSPS Project	The GEF/IBRD <i>Regional Integrated Silvopastoral Approaches to Ecosystem Management</i> Project
GDP	Gross Domestic Product
GHG	Green House Gases
GIS	Geographic Information System
GoC	Government of Colombia
GPEP	Good Production and Environmental Practices
GPS	Global Positioning System

IAO	Internal Audit Office
IAvH	Alexander von Humboldt Institute of Biodiversity Research
IBRD	International Bank for Reconstruction and Development
ICA	Instituto Colombiano Agropecuario (Colombian Institute for Agriculture and Livestock)
ICR	Incentivo a la Capitalización Rural (Rural Capitalization Incentive)
IDA	International Development Association
IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales (Institute of Hydrology, Meteorology and Environmental Studies)
IFR	Interim Financial Reports
INCODER	Instituto Colombiano para el Desarrollo Rural (Colombian Institute for Rural Development)
IPM	Integrated Pest Management
iSPS	Intensive Silvopastoral Production System
IUCN	International Union for Conservation of Nature
LOA	World Bank Loan Department
MADR	Ministry of Agriculture and Rural Development
m.a.s.l.	Meters above sea level
MAVDT	Ministry of Environment, Housing and Territorial Development
MDG	Millennium Development Goals
MFB	Mixed Fodder Bank
MIS	Management and Information System
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
MTR	Mid-Term Review
NCB	National Competitive Bidding
NDP	National Development Plan
NPAS	National Protected Areas System
OM	Operational Manual
PA	Protected Areas
PAD	Project Appraisal Document
PAS	Procurement Accredited Staff
PIT	Project Implementation Team
PES	Payments for Environmental Services
POA	Annual Operative Plans
PTA	Agricultural Transition Project
PY	Project Year
REDD	Reducing Emissions from Deforestation and Forest Degradation
SBD	Standard Bidding Documents
SENA	Servicio Nacional de Aprendizaje (National Learning Service)
SINA	National Environmental System
SMMLV	Monthly Minimum Legal Wage in Force
SOE	Statement of Expenditures
SPS	Silvopastoral Production System
TA	Technical Assistance
TECNIGAN	FEDEGAN's Regional Technological Service Centers
TFCA	Tropical Forest Conservation Act
TTL	Task Team Leader
TNC	The Nature Conservancy
TOR	Terms of Reference
UAESPNN	Administrative Unit of the National Natural Park System
UAF	Unidad Agrícola Familiar
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WB	World Bank

Vice President:	Pamela Cox
Country Director:	Gloria Grandolini
Sector Director:	Laura Tuck
Sector Manager:	Ethel Sennhauser
Task Team Leader:	Juan Pablo Ruiz

COLOMBIA
Mainstreaming Sustainable Cattle Ranching

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I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. Cattle ranching is a key economic subsector of the Colombian economy, contributing 3.5 percent of GDP and 27 percent of agricultural and livestock GDP, and accounting for 7 percent of national and 28 percent of rural employment. It faces structural barriers common to rural development in Colombia, such as: weak human capital, low productivity¹, high level of informality, inefficient use of natural resources, and inadequate access to financial resources and new technologies, among others.
2. As with other agricultural activities, cattle ranching is carried out in areas where high poverty levels², unequal income distribution, illiteracy, violence, and unequal land ownership prevail. Except for a small percentage of very large landowners, most landholdings are small. 82 percent of cattle ranchers have less than 50 animals per farm and face financial and technological limitations to participate in the subsector's development. Working capital and natural resources are inefficiently used and translate into high production costs and marginal profitability.
3. About 38 percent of Colombia's total land surface is used for cattle ranching—an area that has expanded from 14.6 to 38 million hectares (ha) over the last fifty years, mostly at the expense of tropical forest. Through its impact on Andean and Amazon Basin forests, ranching-induced deforestation has historically been one of the main causes contributing to the loss of unique plant and animal species in Colombia. Secondary Andean forest with high biodiversity (close to 20 species of birds monitored per check point) has been replaced with degraded pastures. 66 percent of the land used as permanent pasture is degraded and otherwise unsuitable for grazing. Average stocking rates on these pastures are estimated at less than 1 animal per hectare.
4. Agriculture and livestock production can be a source of substantial rural growth and rural poverty reduction, particularly among small producers. To achieve this, the Government has implemented policies to: (i) provide incentives to increase productivity, (ii) finance asset improvement, and (iii) promote small producer access to markets, inputs, and new technologies such as silvopastoral production systems (SPS). In June 2007, the Ministry of Agriculture and Rural Development (MADR) established the *Rural Capitalization Incentive* (ICR)³ for any farmer interested in implementing intensive silvopastoral production systems⁴ (SPS) with specific tree densities and species (fodder and timber)—an initiative promoted by the Colombian Cattle Ranching Association (FEDEGAN) and the Center for Research on Sustainable Agricultural Production Systems (CIPAV). FEDEGAN and the Fund for Agricultural and Livestock Sector Financing (FINAGRO) entered into an agreement to better integrate the offer of credit lines with technical assistance for cattle ranching, including for SPS.

¹ Average technical parameters include: low birth rates with long calving intervals, high mortality rates, low levels of milk production, meager daily weight gains per animal, and reduced lactation days, among others, given little innovation regarding bovine feeding, machinery, equipment, sales (a large amount of milk is sold warm and without pasteurization), etc. Data collected by FEDEGAN between 2008 and early 2009 for several areas targeted for project intervention reveal average birth rates of 52 percent, stocking rates below 0,9 cows/ha, and 3,5 liters of milk produced per cow per day in farms with low to medium levels of technification.

² Colombia's rural poverty rate is 68 percent (2005) and affects 8 million people, most of them small farm families. The rural poor represent 36.5 percent of all the poor and 49 percent of all extremely poor.

³ The ICR subsidizes agricultural investment provided that it is funded by a loan rediscounted with FINAGRO. SPS implementation is eligible to receive an ICR that subsidizes 40 percent of the credit cost.

⁴ SPS replace overgrazed and often degraded pastures with complex vegetation combining trees, shrubs, and various herbaceous plant species for cattle grazing. Intensive SPS are high-density fodder shrub and plant arrangements (over 7,000 per ha) that can include woody species, for direct cattle browsing. They encompass fodder banks planted with densities over 10,000 per ha to obtain foliage (leaves and green branches) for animal feed.

5. The GEF/IBRD *Regional Integrated Silvopastoral Approaches to Ecosystem Management Project* (RSPS Project) implemented in Colombia, Costa Rica, and Nicaragua between 2002 and 2008 demonstrated the positive impact of silvopastoral production systems (SPS) on the sustainability and productivity of cattle ranching in many areas. Comprehensive monitoring and evaluation efforts under the project documented substantial benefits among participating farms in the three target countries (see Annex 9) in terms of:
 - (i) Biodiversity conservation – the number of species and individuals of special indicator groups observed increased in all sites, among which, birds (including many forest-dependent and endangered species), butterflies, and terrestrial mollusks. Globally important flora was also protected.
 - (ii) Land improvement – the mean soil erosion in project areas was reduced by almost 50 percent between 2002 and 2007 (from 80.9 to 44.1 ton/ha/yr). The use of agrochemicals, mainly herbicides, decreased on average 40 percent in participating farms.
 - (iii) Carbon sequestration – GHG emissions were reduced through fewer applications of nitrogen-based synthetic fertilizers (urea and others), reduced use of fire as a pasture management tool, and improved animal nutrition (methane emission reductions were estimated at 21 percent and nitrogen dioxide emission reduction at 36 percent); and capacity to store carbon in the soil and in the above ground biomass increased. Carbon removals were estimated at 1.5 Cton/ha/yr (Ibrahim, M. et. al., 2007).
 - (iv) Water quality – results included positive effects on the quality of water in micro-catchments in Colombia. In three years, project monitoring evidenced reduced contamination and sedimentation levels.
 - (v) Farm productivity – beef and milk production increased as stocking rates and animal conditions improved, and costs related to fertilizer and herbicide use decreased, as did the levels of soil erosion. Project results countered the farmers’ perception that cleaner pastures are more productive.
 - (vi) Equity-research in Nicaragua showed that poor ranchers benefitted more from *Payments for Environmental Services* (PES), on a unit area basis, than the wealthy ones.
6. Despite their on-farm and off-farm benefits, demonstrated by the RSPS Project, SPS have only been adopted to a limited extent in Colombia due to the lack of knowledge of their existence, their high initial cost, and their technical complexity. Moreover, many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services, are externalities from the perspective of individual landholders, who therefore have limited incentives to adopt them. The RSPS Project also measured and demonstrated the effects of using PES to induce farmers to adopt SPS and related land use changes. Farmers responded positively to PES and technical assistance offered under the project for the adoption of such changes in their production systems, particularly by implementing natural pastures with trees, mixed fodder banks, and live fences. At the Colombia site, PES recipients changed land use on 48 percent of their farm area, compared to less than 13 percent for members of a control group.
7. The project’s proposed strategy for the broader adoption of SPS in Colombia, led by a key actor in the subsector’s development such as FEDEGAN, would address the barriers associated with access to financial resources and technical assistance through differentiated instruments, including PES.

B. Rationale for Bank involvement

8. The proposed project is consistent with the Bank's Country Partnership Strategy (CPS) for Colombia during FY2008-2011, which supports the country's development goals as expressed in the *National Development Plan (NDP) 2006-2010* and longer-term development strategy "*Colombia Vision 2019*". The NDP lays out a comprehensive set of programs built around six main pillars⁵ that form the basis for the CPS. Bank support is focused on: (i) sustained equitable growth; (ii) poverty alleviation and equity of opportunity; (iii) promotion of environmental sustainability; (iv) peace and security for citizens; and (v) efficient and effective government.
9. In addition to the Bank's experience in investment lending for sustainable natural resource management, its long-term involvement in the Colombian rural sector give the Bank an added value to implement the proposed project. The Bank also has a strong comparative advantage in supporting PES approaches to environmental and rural development, having worked on implementing these approaches for almost a decade. It is uniquely placed to continue learning from these experiences and to disseminate knowledge gained to policy-makers in Colombia and other countries and regions.

C. Higher level objectives to which the project contributes

10. The proposed project supports the Strategic Objectives of the GEF Biodiversity Program to mainstream biodiversity conservation in production landscapes and sectors, and the GEF Land Degradation Program aimed at upscaling sustainable land management investments that generate mutual benefits for the global environment and local livelihoods. Project components fall under the GEF strategic program BD-SP5 fostering markets for biodiversity goods and services, as well as LD-SP1 supporting sustainable agriculture and rangeland management, by promoting environment-friendly land use practices through rural financial incentives, ecomarket-based instruments, and partnerships with key public and private actors in the cattle ranching sector.
11. The results of the proposed strategy for broader adoption of SPS would contribute to the NDP's equity pillar seeking to improve income generation capacity of the rural poor, particularly in conflict-stricken areas through their social and economic inclusion, and the growth pillar seeking to improve the competitiveness of the Colombian agricultural sector, as well as help the GoC fine-tune the policy mix to improve sub-regional competitiveness. The private sector's active participation in this project would contribute to both GEF and national higher level objectives.

II. PROJECT DESCRIPTION

A. Lending instrument

12. The proposed project would be financed by a full-size grant from the Global Environment Facility in the amount of US\$7 million, with co-financing totaling US\$35 million from (a) the Ministry of Agriculture and Rural Development (MADR) and FINAGRO; (b) FEDEGAN; (c) project partner NGOs such as CIPAV, the Environmental and Childhood Action Fund (FPAA), and The Nature Conservancy (TNC); and (d) contributions of producers and local cattle ranching organizations. The proposed project would also help develop additional financing sources from service users to support PES payments.

⁵ Peace and Security; Equity; High and Sustainable Growth; Environmental Sustainability; Good Governance; and transversal themes.

B. Project development objective and key indicators

13. The project's Global Environment Objective (GEO) is to promote the adoption of environment-friendly silvopastoral production systems⁶ in Colombian cattle ranching in project areas, to improve natural resource management, enhance the provision of environmental services (biodiversity, land, carbon, and water), and raise the productivity in participating farms.
14. Key performance indicators for the project would include:
 - 50,500 ha of environment-friendly cattle ranching production systems implemented in 5 project areas
 - Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS implemented in participating farms in project areas;
 - Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas;
 - 5 percent increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs;
 - At least two PES mechanisms financed by local users of environmental services, implemented by project end; and
 - Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies⁷ (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.).
15. The primary target group are predominantly small to medium-scale farmers from the following five regions: (i) the traditional livestock production region in the *Cesar* River Valley; (ii) the adjacent lower *Magdalena* River region; (iii) the traditional dairy cattle production regions of *Boyacá* and *Santander*; (iv) the coffee producing ecoregion and upper *Cauca* River; and (v) the low foothill region in the eastern cordillera of southern *Meta*. Although the proposed project would focus on small and medium-sized farms as per land extension⁸, large owner participation will be allowed when it contributes to achieve project objectives regarding the provision of key environmental services (biological connectivity, carbon sequestration, watershed management, and land restoration)⁹. Nonetheless, the selection criteria would apply to all cattle ranchers interested in participating, regardless of their size.

⁶ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system:
- its increase of vegetative cover in farms, including trees
- its decrease of agrochemicals of fossil origin (pesticides and fertilizers)
- its contributions to decrease soil erosion
- its overall contribution to improve the quality of the landscape

⁷ The strategy's readiness for adoption would be assessed in FEDEGAN's up-scaling and replication of project instruments to meet the goals included in its sector *Strategic Plan 2019*. The extent to which incentives under the strategy are incorporated into policy plans and instruments issued by the Ministries of Agriculture and Environment, FINAGRO, the Regional Environmental Authorities, and/or the National Planning Department would also be monitored.

⁸ Taking into account the results from the social assessment and criteria employed by rural legislation in force, the proposed project would use farm extension to classify farmer size with differentiated ranges to adequately respond to regional differences (see Annex 4). Selection criteria would include that: (i) farmer is head of household; (ii) farmer certifies legal land occupancy pursuant to Colombian rural legislation currently in force; (iii) cattle ranching is the main production activity and the main source of income for farmer; and (iv) farmer does not have pending investigations in association with illegal armed groups, as confirmed through the judicial certificate issued by the Administrative Department of Security (DAS). Inclusion would not be based on affiliation to FEDEGAN or counterpart regional/local cattle ranching associations or committees.

⁹ As in the *RSPS Project*, a ceiling of US\$6,500 has been set for the total amount of PES payments an individual farm can receive, as a way to ensure higher levels of participation

16. Globally important biodiversity would be safeguarded in the five target regions, which were selected for their high levels of biodiversity and their proximity to strategic ecosystems and protected areas. The Cesar River Valley and Magdalena River regions contain the last remaining fragments of dry tropical forest, considered one of the Neotropical zone's most endangered ecosystems – degraded in 98.5 percent of its surface area in Colombia. Other strategic ecosystems are the wetlands associated with the Magdalena River, considered of high priority by IUCN and TNC due to the existence of migratory birds and endemic species. The Boyacá-Santander region contains the Andean Oak Forests Corridor, one of the richest areas of vascular plants in the Andean region, harboring populations of several endangered species (e.g., mammals such as the Puma concolor, birds such as the gorgeted wood-quail, and endemic frogs such as the Gámbita robber frog and *Eleutherodactylus spilogaster*). The coffee-growing ecoregion concentrates most of Colombia's coffee landscapes, where about 16% of the country's 1,750 bird species have been registered (including multiple endemic, threatened, and migratory species), along with several threatened flagship species such as the spectacled bear (*Tremarctos ornatus*), and butterfly species both endemic and new to science. The southern Meta region is part of the larger Eastern plains that have a diverse landscape of dry forests, tropical grasslands, and seasonally flooded plains—ecosystems traditionally underrepresented in the Colombian protected areas system.
17. The RSPS Project demonstrated that not all silvopastoral practices have the same profitability for farmers or contribute equally to biodiversity conservation¹⁰. The project would therefore apply distinct strategies in each area to promote environment-friendly land management in cattle ranching farms.

C. Project components

18. Total project cost is US\$42 million, of which the GEF would finance \$7 million. The proposed project would focus on reducing key constraints to the adoption of land use practices that are beneficial both for the farmer and the environment through the following components:

Component 1. Improving productivity in participating cattle ranching farms in project areas, through SPS (Total cost US\$30.9M; GEF financing \$1.7M)

19. The aim of this component is to sustainably increase productivity in cattle production farms through the adoption of environment-friendly SPS. The proposed project would offer a package that includes: (i) farmer training and *technical assistance* (TA) to promote cost-effectiveness and sustainability; and (ii) support to access financial resources for SPS adoption, namely attractively-priced loans already in place for the adoption of intensive SPS with specific tree densities and species (fodder and timber), from the GoC's second-tier bank FINAGRO. Project resources would be directed to raise awareness on and support farmers' access to FINAGRO and other existing financial instruments for investments in SPS (e.g., microfinance options), particularly by small and medium-scale farmers. TA to design and implement SPS conversion plans would be provided through FEDEGAN's assistance centers and other regional/local TA providers in project areas.

¹⁰ Three land use/technology categories were identified: (i) highly profitable SPS such as fodder banks, improved pastures with high density *Leucaena* or low tree density, among others, which provide some environmental services in terms of biodiversity and carbon sequestration. However, certain practices (e.g. intensive *Leucaena*) are not necessarily very beneficial to biodiversity unless established in association with multi-species live fences; (ii) SPS with a moderate short-term impact on farm productivity, such as live fences or trees in pastures with diversified commercial value, but offering clear economic returns in the mid to long-term and greater ES contributions; (iii) Land use changes representing an opportunity cost for farmers in the short-term, such as withdrawing farm land from cattle ranching production for the provision of high value environmental services (e.g. watershed protection, secondary forest recovery in degraded pastures) are less attractive to farmers and demand long-term sources for their sustained adoption.

20. The main activities under this component would include: (a) SPS training to national, regional, and local TA providers; (b) beneficiary selection and baseline farm assessments; (c) TA to farmers and implementation of SPS in the different regions, including through peer-to-peer information exchange with farmers already implementing SPS; (d) improving access to financial resources for SPS adoption, namely but not limited to FINAGRO credit and subsidies already in place for investments in SPS, in particular to enable small and medium-scale farmer participation; (e) assessing and adjusting sector technologies applied in each project area; and (f) supporting market-based initiatives to secure long-term funding (agroecotourism and certification proposals).

Component 2. Increasing connectivity and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes (Total cost US\$6.5M; GEF financing \$3.8M)

21. The aim of this component is to increase connectivity between natural ecosystems in cattle ranching landscapes through the establishment of riparian and terrestrial corridors¹¹. Biodiversity assessments completed during project preparation helped determine key natural ecosystem remnants in each area, as well as the priority axes along which to connect and conserve them during project implementation; such axes are located along water courses or in terrestrial areas in selected cattle ranching landscapes.
22. The most desirable and relevant land uses for each corridor—both strictly conservation and productive, as described in Annex 4—would be promoted through the proposed PES scheme whereby: (i) short-term payments using GEF resources would support SPS that offer clear economic returns in the mid to long-term such as trees in pastures and live fences, in order to compensate for the initial investment costs (along with intensive SPS, these are expected to be the predominant land use changes). Farmers that adopt strict conservation land uses (e.g., preserving natural ecosystems or establishing new conservation areas) would also receive short-term PES during project life; and (ii) long-term payments from water and other ES users, including the National REDD strategy under formulation, would be sought to induce the adoption of land uses that are highly attractive from a biodiversity perspective, but are less profitable for farmers. PES contracts would promote an integrated farm management that enhances farm productivity while ensuring a sustainable use of natural resources. The proposed project would also support efforts to establish long-term funding sources in at least two cattle production areas by facilitating buyer-seller participation, fund administration, and by monitoring ES generation and contract compliance for water and potentially carbon services.
23. The main activities under this component would include: (a) adjustment and implementation of a PES mechanism offering short-term payments to SPS that are privately profitable in the mid to long term (e.g., live fences, pastures with trees), including the identification of indicators for performance-based PES payments; and (b) design and implementation of local PES mechanisms financed by service users that would offer long-term payments for SPS that are important for service provision, but are unattractive to farmers.

Component 3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching (Total cost US\$1.5M; GEF financing \$0.8M)

24. The aim of this component is to establish key alliances with project partners and stakeholders through a communications strategy that ensures project instruments and results are disseminated from the start.

¹¹ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian corridors or other landscape elements. Their design includes a core strip for strict conservation purposes and buffer strips for secondary succession or SPS. Final land uses to be adopted in the core and buffer strips would depend on site conditions and land use planning agreements reached with individual participating farmers.

In addition, efforts would focus on establishing a monitoring and evaluation system that provides timely and relevant information contributing to the future broader adoption of sustainable cattle ranching production systems in Colombia. Producer associations would also be strengthened to apply to and benefit from project instruments.

25. The main activities under this component would include: (a) M&E and applied research on SPS contributions to environmental services, including to climate change mitigation and adaptation, particularly the contributions of introducing trees as cattle feed in the provision of shade and water retention; (b) results dissemination to key stakeholders, including discussing the inclusion of project instruments into national sector plans and programs with the National Planning Department and the Ministries of Environment and Agriculture; and (c) strengthening producer associations through capacity-building efforts.

Component 4. Project management (Total cost US\$3.1M; GEF financing \$0.7M)

26. The aim of this component is to improve institutional capacity to develop the project and enable the project's financial, technical, legal, and administrative execution.
27. The main activities under this component would include: (a) coordinating intra-and inter-institutional efforts for effective project management; and (b) monitoring and evaluation of project management activities, including the consolidation of project oversight and coordination mechanisms described below.

Table 1. Project Costs by Component and Financing (million US\$)

Project Component	GEF		Co-financing		Total
	US \$	% of component cost	US \$	% of component cost	
1. Improving productivity in participating cattle ranching farms in project areas	1.7	6	29.2	94	30.9
2. Increasing connectivity and reducing land degradation in participating cattle ranching farms	3.8	58	2.7	42	6.5
3. Strengthening subsector institutions and dissemination and M&E efforts	0.8	53	0.7	47	1.5
4. Project management	0.7	23	2.4	77	3.1
TOTAL	7.0	17	35	83	42

D. Lessons learned and reflected in the project design

28. The project design draws on the experience of two types of projects: (i) those implementing PES approaches to natural resource management and to a lesser extent to agricultural productivity, and (ii) several rural development initiatives in Colombia (see Annex 2).
29. Best practices on PES schemes, particularly key lessons from the RSPS Project have been incorporated into project design, including:
- (i) *Differentiated mechanisms are required to promote the adoption of desired practices by farmers* – given that not all silvopastoral practices have the same profitability for farmers or contribute equally to the provision of environmental services, the project would apply three distinct strategies to ensure an efficient use of resources with maximum environmental impacts in each area.
 - (ii) *Silvopastoral practices can play an important role in rural development* – efforts to expand the adoption of SPS under this project have been conceived primarily as a rural development

undertaking that has global environmental benefits providing a genuine example of sustainable rural development.

- (iii) *Paying for the baseline state of biodiversity avoids perverse incentives to clear land and helps finance required investments.*
- (iv) *Simplified ES valuation instruments help demonstrate project impacts, while helping farmers understand the levels of payment received* – the project would apply a land use index to differentiate payment levels, as it has proven to be a good proxy for on-site biodiversity and carbon sequestration variations, and more importantly, a tool that farmers can easily understand and use. PES would follow similar contract and operational procedures as those employed under the RSPS Project (e.g., ex post payments upon verification of land use changes), adjusted for conditions in each project area.
- (v) *Extensive training and knowledge transfer is instrumental to increase public awareness about the role of SPS in sustainable cattle ranching* –. A comprehensive communications strategy needs to be launched from project onset which takes into account the different target audiences and project areas.
- (vi) *Working directly with producers can turn them into ‘protection agents’* – developing conversion plans for sustainable production systems on each farm, helps raise awareness about their role in protecting on-farm natural resources. Farmers positively value the impact of sustainable natural resource management on the price of their land.
- (vii) *SPS contribute to climate change adaptation and mitigation* – the RSPS Project illustrated how the use of tree species that are drought tolerant and retain their foliage in the dry season provides high-quality fodder that results in stable milk and beef production, helps maintain the animals' body conditions (through reduced heat stress from increased shade), reduces methane emissions, and helps secure farmers' assets (through increased farm productivity). SPS were also associated with a significant reduction in the use of fire as a pasture management tool, as well as with significant carbon sequestration in the soil and in the standing tree biomass.
- (viii) *Peer-to-peer interactions have strong multiplier effects* – farmers who share the knowledge that they receive through TA with their peers and broader networks help to disseminate production practices to a wider audience than would be possible with the extension services alone. In addition, visits to farms already implementing SPS proved fundamental under the RSPS Project as small and medium-scaled farmers were able to see that larger rural entrepreneurs also opted for SPS.

30. Other key lessons from implemented/planned PES schemes include:

- Payment structure needs to be based on the size of benefits and the cost of providing them in each area
- An appropriate institutional structure for PES mechanism needs to be in place, including a substantial and skilled field presence trusted by farmers –
- Robust and transparent monitoring system needs to be in place to track compliance with contracts and service generation.
- Outreach and capacity-building activities based on up-front training needs of implementing agencies and project partners result in more effective PES mechanism and project implementation.
- National institutions need to be adequately integrated into project implementation to ensure adoption of key results.

31. A review of rural development projects in Colombia, including Bank-financed sector studies on rural finance and agricultural competitiveness, has underscored key issues for the project's successful implementation, among which:

- *Concerted efforts in areas such as technology development, marketing, and food safety are required to exploit Colombia's comparative advantage in livestock products, particularly milk and beef*–.
- *Capacity-building at sub-national levels* is foreseen under the leadership of FEDEGAN's regional technical assistance centers, with support from regional and local partners under clear rules.
- *Closely monitoring access to FINAGRO's SPS credit line and the ICR* is needed to address existing limitations in financial service provision in rural areas, particularly for small-scale farmers.

E. Alternatives considered and reasons for rejection

32. Traditional conservation approaches that take land entirely out of production would be very costly, socially infeasible, and would generate negative farmer response. The proposed strategy for environment-friendly SPS adoption under the project would promote more efficient production while using less ranching area. Conversion to SPS provides an alternative that substantially increases on and off-farm biodiversity, while enabling farm productivity to improve. The incremental cost is limited to the difference between the net on-farm returns of traditional practices and the net on-farm returns of SPS, whereas the cost of a traditional conservation approach would be the full net on-farm returns of traditional practices.
33. Extending the RSPS Project 's model of offering only short-term payments but offering them to all SPS on similar terms would provide excessive support to those systems that are already profitable for the ranchers, and result in insufficient support to those systems that provide high levels of environmental services but are not very privately profitable.
34. Areas were selected based on different criteria (see Annex 10), among which were their proximity to protected areas (PA) and high levels of globally important biodiversity. The alternative of selecting degraded areas distant to PA and their buffer zones was discarded as the RSPS Project demonstrated that implementing SPS in cattle ranching landscapes close to PAs enabled PA and SPS biodiversity protection outcomes to reinforce one another, leading to stronger eco-regional biodiversity protection.

III. IMPLEMENTATION

A. Partnership arrangements

35. The project's main partnership for implementation and cofinancing purposes is an alliance between FEDEGAN, CIPAV, FPAA, and TNC. This partnership arrangement dates back to 2005 when progress under the RSPS Project encouraged FEDEGAN and CIPAV to seek a scaling-up operation that coincided with the subsector's interest in promoting a sustainable production culture. FPAA and TNC joined the initiative given their interest in stimulating private sector participation and investments in biodiversity conservation and sustainable natural resource use. The opportunity to work directly with the cattle ranching association, traditionally unaware of the environmental and social considerations promoted by the project, was capitalized by all agencies involved.
36. The main cofinancing sources are as follows: (i) FEDEGAN, as grant recipient, would receive GEF resources and provide parallel cofinancing amounting to US\$3.3M for the implementation of activities under project components 1, 3, and 4 (US\$1.9M of which is in cash); (ii) FINAGRO/MADR has earmarked nearly US\$22M in credit and ICR to support SPS adoption, which farmers would apply for via the first-tier banks operating with FINAGRO in project areas; (iii) the FPAA would administer a special account to fund PES subprojects under component 2, with GEF resources and joint cofinancing totaling US\$1.5M in cash, in addition to eventually pooled funds from the ES users; (iv)

CIPAV and TNC would provide parallel cofinancing in the amount of US\$2.11M to support TA provision, M&E, land use verification, and long term PES schemes, according to their area of expertise as described in Annex 6; (v) the cattle ranchers and producer associations are expected to contribute US\$6M in-kind, parallel contributions to adopt SPS in their farms. Cofinancing from FPAA, CIPAV, and TNC would pay for global environmental benefits along with GEF resources (see Annex 15 for GEF additionality).

B. Institutional and implementation arrangements

37. An institutional assessment was conducted to evaluate the strengths and weaknesses of each agency, along with an assessment of the reputational risk involved in partnering with FEDEGAN (see Annex 6A). The general recommendation is to maintain the four agencies as implementation partners, with clearly assigned responsibilities, to ensure project success.
38. Given FEDEGAN's key role in ensuring project impact, both through its leadership in favor of the subsector's development and its interest in the subsector's transformation to sustainable production models, as well as its ample experience in the administration of public funds and project execution by delegation of the GoC, FEDEGAN would be the GEF grant recipient and Lead Executing Agency.
39. A Grant Agreement would be signed between the World Bank, as GEF implementing agency, and FEDEGAN, as Lead Executing Agency. FEDEGAN would be responsible for project administration, including: (a) activity supervision; (b) procurement of goods and services for project execution; (c) the project's financial management and accounting; and (d) technical and administrative monitoring and information consolidation and reporting. Subsidiary agreements would be drafted prior to negotiations and signed between FEDEGAN (the 'Lead Executing Agency') and CIPAV, FPAA, and TNC (the 'Core partner agencies') before grant effectiveness (See Annex 6).
40. The project would have the oversight of a Steering Committee with decision-making powers. The Committee, as described in Annex 6, would be composed of project coordinators in FEDEGAN and core partner agencies, meet periodically to review project progress based on M&E, and make collective decisions on key technical and administrative issues for implementation, including for beneficiary selection.
41. A Public Policy Committee comprised of representatives of the MAVDT, the MADR/FINAGRO, the DNP, and the Association of CARs (ASOCARS) would advise the overall implementation of the proposed project and provide guidance on its scope. The Committee, as described in Annex 6, would meet twice a year with the Steering Committee, and in extraordinary circumstances if required.

C. Monitoring and evaluation of outcomes/results

42. The project's M&E would be designed to measure: (i) the project's administrative activities at the national and regional levels under component 4, including the consolidation of the oversight and coordination mechanisms for project implementation described in Annex 6, and (ii) the project's progress towards achieving its development and global environmental objectives under component 3, based on the results framework described in Annex 3.
43. The Project Implementation Team (PIT) located within FEDEGAN would be responsible for monitoring and compiling technical, financial, and procurement data to report on implementation progress. The project's regional coordinators in FEDEGAN's Regional Development Units would use

standardized report formats to collect information on inputs and outputs in each region, as well as information from core project partners to periodically track project status.

44. Baseline farm assessments would be conducted to register land use, socioeconomic, environmental, and production conditions of participating farms, relevant to outcome indicators included in the project's results framework. Information collection and analysis would take place on a periodic basis, with active participation by farmers where possible. An M&E protocol would be developed by CIPAV and TNC detailing procedures and indicators to monitor ES provision at the farm, the landscape, and the ecoregion levels.
45. An impact evaluation would be undertaken to assess impacts directly caused by the project interventions in each area. Impacts would be distinguished for each project area to enable an assessment of SPS and their economic, social, and environmental viability in the different regional contexts (see Annex 3).
46. Information provided by the proposed administrative and technical progress reports would be assessed by the project's Steering Committee to address any implementation weaknesses and adjust project strategies as required. Impact evaluation results would enable the Bank and project partners to promote the proposed strategy for the broader adoption of environment-friendly cattle ranching production systems with key policy-makers.

D. Sustainability and Replicability

47. FEDEGAN, as the Grant Recipient, has demonstrated its commitment to and ownership of the proposed project. The results of the RSPS Project engaged FEDEGAN¹² and provided the basis for a revolutionary objective under the subsector's *Strategic Plan 2019* to withdraw 10 million ha of land from productive use, while increasing the national cattle inventory from 23 to 31 million heads via an intensification based on SPS and TA. In addition, FEDEGAN showed its conviction about the attractiveness of SPS by obtaining the establishment of a line of credit with an incentive for SPS adoption, whereby an ICR subsidizes 40 percent of the cost of credit..
48. The project would promote institutional sustainability through the following activities: (i) greater coordination between environmental and rural development agencies participating as project partners; (ii) enhanced public-private partnerships, led by FEDEGAN, for conservation and sustainable natural resource management in productive landscapes; and (iii) decentralized execution of activities, involving not only international and national NGOs, but also regional and local authorities, producer associations, and farmers.
49. Financial sustainability is central to project design, in particular for the sustained adoption of land uses that are most attractive from a biodiversity perspective, but are less so from a production perspective. The proposed project would address financial sustainability through: (i) the design and implementation of local PES mechanisms financed by service users that would offer long-term payments for SPS that are important for service provision, but are unattractive investments for farmers; (ii) the provision of comprehensive technical assistance as a tool to ensure profitability of SPS with a moderate short-term impact on farm productivity, but offering clear economic returns in the mid to long-term and greater ES. These include live fences, wind barriers, or trees in pastures with diversified commercial value, among other land uses that once correctly established, prove profitable

¹² More than a symbolic gesture, the President of FEDEGAN has implemented 120 ha. of SPS on his farm with his own resources.

for farmers and are therefore maintained; and (iii) subsidiary support to market-based instruments such as agroecotourism and certification analyses to provide farmers with potential funding flows.

50. Local participation is critical for the social sustainability of project activities, and would be promoted through: (i) the project’s support for increased farmer collaboration and association, particularly for small and medium-scale farmers; and (iii) the promotion of peer-to-peer knowledge transfer to disseminate silvopastoral practices to a wider audience.
51. Replicability would be supported through: (i) a strong intention in FEDEGAN’s *Strategic Plan 2019* to upscale SPS; (ii) capacity-building efforts beyond direct beneficiaries—by training neighboring farmers, FEDEGAN’s technicians, local TA providers, and producer associations in SPS as best production practice; (iii) the necessary institutional conditions to enable the broader of adoption of SPS in Colombian cattle ranching, particularly by small and medium-scale farmers¹³; (iv) a communications strategy focusing on transferring the tools developed and tested to different target audiences, including policy-makers¹⁴; and (v) an impact evaluation and applied research that would demonstrate SPS contributions not only to ES provision such as climate change adaptation and mitigation through Reduced Emissions from Deforestation and Degradation (REDD), but also to improved local livelihoods and farm productivity.

E. Critical risks and possible controversial aspects

52. Based on the abovementioned factors for sustainability, the following risks have been identified as critical for project success:

Description of Risk	Mitigation Measures	Residual Risk Rating*
Small-scale farmer participation is limited due to financial constraints for SPS adoption	The project would allocate significant resources to raise awareness on and support farmers' access to existing financial instruments (e.g., by training farmers to apply for existing FINAGRO credit lines; promoting cooperative/associative credits; discussing active interventions with MADR-FINAGRO to ensure access such flexible conditions for SPS applicants, among other measures).	Moderate
Lack of sufficient political support for the proposed strategy to warrant its adoption by key public decision-makers	The Ministries of Agriculture and Environment would be essential members of the project’s Public Policy Committee, with decision-making responsibilities; their participation would be reinforced through FEDEGAN’s rallying power. The project’s communication strategy would design and implement outreach activities aimed at different target audiences, including policy-makers, with support from impact evaluation results.	Moderate
Increased farm productivity due to SPS adoption fosters the expansion of cattle ranching	While SPS increase productivity, they also improve the farm’s carrying capacity, enabling greater production volumes in less area (thus, the subsector’s Strategic Plan 2019 foresees increased production in less area). Project design seeks to prevent the risk of further conversion of land to cattle ranching through: (i) target areas selected as non-active agricultural frontiers, but established cattle ranching areas; and (ii) agreements to be signed with individual farmers to ensure	Low

¹³ The GoC is interested in innovative rural extension models to support the rural poor, and the project’s joint institutional efforts, regionally anchored in FEDEGAN, may contribute valuable lessons.

¹⁴ The MAVDT has expressed its interest in adopting successfully-tested tools (e.g., site selection methodologies) in its policy for conservation in transformed landscapes, under formulation.

Description of Risk	Mitigation Measures	Residual Risk Rating*
	sustainable land use planning in each farm, with a baseline assessment of land uses and close M&E	
FEDEGAN is perceived as directly involved with illegal armed groups, particularly paramilitary groups	<p>The reputational risk assessment conducted following PCN Meeting recommendations rated this as a Moderate risk, highlighting that less specific references were found to FEDEGAN-as the professional association of cattle ranchers in Colombia- being involved with illegal armed groups when compared to past perceptions regarding individual cattle ranchers (see below). FEDEGAN enjoys a good reputation in several regions selected for project intervention, and has received support from the GoC and the national State agencies involved in the sector, including for public resource administration.</p> <p>The proposed mitigation strategy includes:</p> <ol style="list-style-type: none"> 1. A partnership management arrangement where FEDEGAN, CIPAV, FPAA, and TNC have major roles in project implementation and make decisions in a collective manner, thus mitigating the perception of single-handed project administration and consequently of an exclusive WB-FEDEGAN relationship. This collective project management would reinforce the Bank’s support to an alliance of private and non-governmental agencies seeking to work on the agriculture-environment nexus. 2. The use of selection criteria and screening procedures to prevent participation of individuals with past or current associations with illegal armed groups and monitor issues emerging in this sense: <ol style="list-style-type: none"> (i) Selection of municipalities and provinces with low levels of internal displacement over the last 10 years as per the National Register of Internally Displaced Population administered by the Presidential Agency for Social Action and International Cooperation¹⁵; (ii) Selection criteria requiring the demonstration of legal <i>land</i> occupancy and the absence of <i>individual</i> criminal records, as verified by (a) certificates issued by judicial authorities in Colombia, and (b) local inhabitants who will be given the opportunity to raise issues if they suspect that preliminary selection includes individuals that do not meet the criteria (i.e., an <i>ex ante</i> grievance and redressal system) (iii) Final beneficiary selection from locally validated lists, undertaken collectively by the project’s Steering Committee to avoid local or regional pressures selection; and (iv) Baseline assessments undertaken in selected farms by CIPAV and TNC personnel—agencies not seen by local communities as involved with either guerrilla or paramilitary groups and therefore not preempting farmer enrollment in the project; 3. A project social communications strategy highlighting: <ol style="list-style-type: none"> (i) FEDEGAN’s role as administrator of public resources by delegation of the GoC (over US\$184.3 M nominal value successfully managed in the last 8 years through the National Cattle Fund, the Stabilization Fund, and the 	Moderate

¹⁵ Beneficiary selection in municipalities where the number of internally displaced households expelled accounts for more than 15 percent of departmental displacement levels over the last 10 years would be closely analyzed by the project’s Steering Committee to avoid exclusion through generalization, while ensuring that farmers with current associations to illegal armed groups are not included.

Description of Risk	Mitigation Measures	Residual Risk Rating*
	cooperation agreements with State agencies); (ii) subsector transformation towards a socially and environmentally sustainable production culture, supported by a GEF-financed, WB-administered project, executed by FEDEGAN in partnership with renowned environmental and rural development NGOs specializing in these subject matters, particularly to motivate farmer participation at the local level.	
Bank's reputation is questioned in working with 'the cattle ranchers', perceived by certain social sectors as having supported illegally armed groups, particularly paramilitary groups	<p>The reputational risk assessment indicates that this perception–predominant amongst urban groups and human and victim rights defendants–is independent from the reality of those relationships in terms of their regional coverage, the reasons behind them, and the degree of support and percentage of farmers involved.</p> <p>The project design addresses this risk through the design of a collective project management arrangement and selection criteria to prevent the participation of any organization or individual producer with past or current associations with illegal armed groups, as described above.</p> <p>In addition, the project's social communications strategy would seek to assuage this perception, including the existing stereotype of the Colombian cattle rancher as a wealthy person, with considerable land extensions and animals, to highlight the fact that 82 percent of cattle ranchers in Colombia fall under FEDEGAN's parameters for small or medium-scale. It would also help ensure local participation and feedback through:</p> <ul style="list-style-type: none"> • periodic <i>account rendition events</i> in each area; • <i>complaint boxes</i> set up locally to deposit farmer claims regarding adverse impacts and beneficiary selection; • <i>campaigns through local bulletins, gazettes, or community radio stations</i> that include instructions and addresses (electronic or mail) to formally denounce irregularities. <p>Local complaints would be permanently reviewed by the project's Steering Committee to ensure early warnings are generated and corrective measures devised. Consolidated claim reports would also be examined during Bank supervision missions and MTR. Subsequent M&E indicators and checklists to guarantee that procedures have been adequately applied would be determined in the project's Operational Manual</p>	Substantial
The multiplicity of agencies involved in project implementation, with varying management capacities, increase operation costs while reducing efficiency	<p>While the 'lead Executing agency-core partners' arrangement may seem to complicate implementation, it is important to guarantee such an alliance to ensure adequate expertise and mitigate potential reputational risks for the Bank. Results from other projects employing this scheme have been reviewed and assessed as positive.</p> <p>Accountability will remain with FEDEGAN, but specific decisions will be left for adoption by consensus from the Steering Committee, comprised of those responsible for project execution in FEDEGAN, CIPAV, FPAA and TNC regarding key issues (e.g., beneficiary selection) clearly defined in the Operations Manual.</p>	Moderate
Long-term Payments for Environmental Services are not secured for the third category of	Under component 2, the project would focus on designing and implementing at least two local PES mechanisms financed by service users from the start, and would build on the strengths of	Substantial

Description of Risk	Mitigation Measures	Residual Risk Rating*
land use changes, requiring sustainable payments for their adoption	project partners (particularly TNC and FPAA) to raise funds for these conservation land uses. The design of long-term PES mechanisms builds on substantial World Bank experience in this area.	
Adverse environmental consequences from project implementation are highly unlikely. However, there is uneven prior experience in the implementation of safeguards among project partner agencies	<p>Several mechanisms were employed in project design to avoid negative environmental effects:</p> <ul style="list-style-type: none"> (i) none of the five selected areas are considered active agricultural frontiers as they are currently consolidated areas for agricultural activities (mainly cattle ranching); (ii) the proposed PES scheme grants a baseline payment for preserved forests to recognize previous conservation efforts by participating farmers; additional payments would be made each year if they are preserved. Highest ES values and therefore payment levels, are assigned to existing mature forests and wetlands to discourage their conversion to production land uses; (iii) the proposed Integrated Pest Management Plan would reduce the use of pesticides and their impact on human health and the environment; and (iv) the proposed connectivity corridors along which to prioritize activities under Component 2 were designed to reconnect fragments of key remnant natural ecosystems identified in each of the cattle ranching landscapes analyzed. <p>As in the RSPS Project the implementation of PES schemes, along with the promotion of environmental and production good practices in participating farms are expected to raise farmer awareness on sustainable natural resource management.</p> <p>Regarding institutional capacities to plan and implement safeguard measures, activities under component 4 would focus on identifying up-front training needs in FEDEGAN and Core partner agencies regarding safeguard procedures.</p>	Moderate
Farmer participation involves some form of coercion or projects lands that are contested	<p>The project will use legal procedures currently in force in Colombian regulations to verify that project lands are not contested and are under legal ownership, as follows:</p> <ul style="list-style-type: none"> (i) for <i>private property</i> (where the land is exploited by its owner), ownership is certified through a Certificate of Delivery and Unencumbered Property; (ii) for <i>bonafide possession</i> (where the land is exploited by its holder), possession is certified through just title (purchase, donation or exchange deed, or award resolution) or in its absence, through a copy of the property tax receipts of the last two years in the farmer's name, as well as a written certificate of full and undisturbed possession; and (iii) for <i>tenancy</i> (where the land is exploited by a tenant, a share farmer, a bailee, an usufructuary, a temporary or permanent allottee, a joint venture corporation, or a company recognized by the MADR as specializing in agricultural projects), tenancy is certified through a copy of the property tax receipts of the last two years in the name of the Party who delivered the land for third-party use; a copy of the contract certifying the type of land tenancy having at least a one year duration, and in the absence of a written contract, an affidavit certifying the type of land tenancy having at least a one year duration, and signed by the land owner as a witness (affidavit is valid for all types of tenancy except under temporary and permanent allotment and exploitation 	Low

Description of Risk	Mitigation Measures	Residual Risk Rating*
	<p>contracts signed with the INCODER).</p> <p>* Complementary measures could include a certification by the Public Prosecutor’s Office that lands aren’t under current legal dispute.</p> <p>Voluntary changes in land use practices (not contributions of land) will be negotiated by project technicians with farmers who enter the project at their will. If farmers choose not to participate, their decision will be respected; connectivity corridors designed at the ecoregion and landscape levels foresee that this may occur, and will therefore be adjusted at the farm-level during PY1 to account for landowners not enrolled.</p>	
Potential related activities result in negative impacts (e.g., building of roads)	Based on the RSPS Project results, no additional potential related activities have been identified (no building of roads is foreseen, but in such case, a process framework would be prepared)	Low
Potential conflicts with municipalities not selected for project intervention, particularly in the Eastern foothills of Meta, including dissatisfaction with the site selection approach used, particularly by environmental authorities	The project’s social communication strategy would highlight: (i) positive spill-over effects from project capacity-building efforts, whereby neighboring farms not selected to participate, but interested in adopting SPS would have access to the technical assistance and training offered under the project; and (ii) the three-step methodology used for site selection, which includes a final on-site assessment to adjust connectivity corridor designs to the social and environmental realities in each area.	Moderate
Overall Risk Rating		Substantial

* Risk is rated on four-point scale: High, Substantial, Moderate and Low

F. Loan/credit conditions and covenants

53. The signing of subsidiary agreements between FEDEGAN and CIPAV, FPAA, and TNC has been determined as the single condition for grant effectiveness.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

54. The RSPS Project demonstrated the economic and financial viability of cattle ranching based on SPS , in terms of improved economic returns of different SPS-related land uses, increased beef and milk production and farmer income, and the generation of environmental benefits of global and local nature.
55. The proposed project builds on the experience of the RSPS Project and proposes a strategy for the broader adoption of environment-friendly SPS in Colombian cattle ranching which includes: (i) initial support in the form of access to credit (already available for intensive SPS that are financially viable) and TA for their implementation; (ii) short-term payments for environmental services generated by SPS practices/land uses having mid-term economic returns (e.g. improved pastures with trees, live fences or wind barriers); (iii) long-term, sustainable payments for the SPS-related land uses that are attractive from an environmental perspective, such as riparian corridors and mature forests, but less attractive to farmers in light of the opportunity costs of land; and (iv) an enabling institutional environment that favors sustainable cattle ranching in the country.
56. Economic analyses undertaken by the RSPS Project showed that different combinations of SPS for beef cattle ranching, relying upon adequate TA, had return that were higher than estimated prior to the

project, where PES contributed to increase returns despite only partially covering investments required for land use changes¹⁶:

Table 2. Economic returns of different farm models with and w/out PES – Colombia

Farm Model*	Net on-farm returns (US\$/ha/yr)	IRR (%) w/o PES	Net on-farm returns w/ PES	IRR (%) w/ PES
Extensive model with degraded pastures	12	0,1	–	–
Intensive SPS with 40% ICR	300	20	–	–
Improved pasture with low tree density	108	N.A.	160,5	N.A.
Secondary forest recovery in degraded pastures	0	N.A.	71,9	N.A.

Source: CIPAV 2009

57. Increased farmer incomes were also registered in farms adopting SPS. At the Colombia site, incomes increased from US\$440 to US\$1,600/ha/year¹⁷. Demand for local labor increased 30 percent on average.

B. Technical

58. The proposed project is based on the implementation of environment-friendly cattle ranching production systems that have demonstrated their positive impact on biodiversity, land management, carbon sequestration, and water quality, as well as on-farm productivity through reduced costs and increased production indicators.
59. Productivity monitoring throughout the RSPS Project also showed improved indicators in farms with trees compared against farms with natural pastures

Table 3. Productivity indicators for farms with improved pasture with varying density of tree cover

Indicator	Natural Pasture	Improved Pasture (IP)	IP + 10% tree cover	IP + 20% tree cover	IP + 30% tree cover	IP + 40% tree cover
AU/ha/yr	0.8	1.4	1.4	1.3	1.1	0.8
Lt milk/ha/yr	608	960	960	1017	860	704
Kg meat/ha/yr	106	152	152	161	136	111
M ³ timber/ha	0	0	9	27	32	51

Source: ICR GEF Regional Silvopastoral Project 2008

60. Social and institutional assessments identified potential barriers for small and medium-scale producer participation. Project efforts to remove these barriers would provide key lessons to validate a strategy for the broader adoption of environment-friendly SPS in different cattle ranching areas.

C. Fiduciary

61. A *Financial Management Assessment* (FMA) of the proposed project’s Lead Executing Agency FEDEGAN¹⁸ was conducted by Bank staff at pre-appraisal stage in accordance with Bank policy. The

¹⁶ PES covered between 15 and 28 percent of SPS establishment costs in Colombia (30 to 40 percent in Costa Rica, and 50 to 70 percent in Nicaragua).

¹⁷ Similarly, incomes increased from US\$162 to US\$252/ha/year in Costa Rica, and from US\$111 to US\$180/ha/year in Nicaragua.

¹⁸ FEDEGAN refers to FEDEGAN-Fondo Nacional del Ganado (FNG) as assessed by FM Specialist. As described earlier, the National Cattle Fund is a special, designated account administered by FEDEGAN.

FMA concluded that, despite its lack of experience with Bank-financed projects, FEDEGAN has sufficient capacity to manage project financial management matters and administer grant funds. *Financial Management* (FM) responsibilities would fall under FEDEGAN's Financial Office.

62. FEDEGAN's main FM responsibilities would include the coordination of financial and administrative procedures related to project budgeting, treasury, general accounting, and reporting. A strong system of internal and external controls is in place at FEDEGAN. Hence, the residual overall FM risk is rated Moderate. The project FM arrangements, as described in Annex 7, are consistent with Bank policy. The agreed upon actions pending implementation at pre-appraisal stage are: (i) drafting FM Chapter of the *Operational Manual* (OM) for Bank review prior to negotiations; and (ii) preparing TORs for the external auditor, included in the OM for Bank review prior to negotiations. No legal 'non-standard' conditions are deemed necessary on FM matters.
63. Procurement for the proposed project would also be the responsibility of FEDEGAN. The agency would carry out the procurement of goods, consultant, and non-consulting services. There would be no procurement of works. Procurement under the proposed project is not considered complex and the overall risk would be reviewed during the first supervision mission (see Annex 8 for procurement details).
64. FEDEGAN has a solid organizational structure and applies procurement practices that have been reviewed and considered acceptable by the Bank. The main risk identified during the pre-appraisal capacity assessment conducted by Bank staff is FEDEGAN's lack of experience using Bank procurement guidelines and procedures, reason for which the overall project risk for procurement is rated Moderate.

D. Social

65. A social assessment was undertaken (see Annex 10) with the aim of: (i) describing socioeconomic conditions of cattle ranchers in the 5 project areas; (ii) identifying potential barriers for small and medium-scale farmer participation; and (iii) assessing potential social and political risks in project areas, including mitigation measures and criteria for inclusion. Valuable information was provided by socioeconomic surveys of sample farms in each area, four regional workshops, and interviews with project stakeholders such as environmental authorities, producer associations, banks with local presence, universities, and NGOs. In addition, project partners led 5 regional workshops with local stakeholders to present the proposed project instruments.
66. The selected project areas are not located near collectively-owned, Indigenous or Afro Colombian territories (see Annex 16). Furthermore, since the proposed project sites are already used as pastures for cattle ranching in regions not considered active agricultural frontiers, no tensions between producers and adjacent communities over land tenure or access to natural resources are foreseen. In addition, under no circumstance would the project undertake or support land acquisitions. The project would use legal procedures currently in force in Colombian regulations¹⁹ to verify that project farmlands are not contested and are under legal ownership.

¹⁹ MADR Resolution No. 026 of 2008 and the related manual regulating the provision of technical assistance by production associations establish the following: (i) for *private property* (where land is exploited by its owner), ownership must be certified through a Certificate of Delivery and Unencumbered Property; (ii) for *bonafide possession* (where land is exploited by its legal holder), possession must be certified through just title (purchase, donation or exchange deed, or award resolution) or in its absence, through a copy of the property tax receipts of the last two years in the holder's name, as well as a written certificate of full and undisturbed possession; and (iii) for *tenancy* (where land is exploited by a tenant, a share farmer, a bailee, an usufructuary, a temporary or permanent allottee, a joint venture corporation, or a company recognized by the MADR as specializing in agricultural projects), tenancy must be certified through a copy of the property tax receipts of the

67. Voluntary changes in land use practices would be negotiated by project technicians with farmers who enter the project of their own free will. No farmers would be forced to participate. Connectivity corridors designed at the ecoregion and landscape levels would be adjusted at the farm-level to account for landowners not enrolled.
68. The proposed project is not expected to adversely impact sources of income or means of livelihood, as SPS adoption contributes to reduce on-farm production costs and increase farm productivity while using less area. Productivity indicators would be closely measured during project implementation to assess these contributions.
69. Screening procedures foreseen to ensure that project activities do not have adverse social impacts include:
- (i) the selection of municipalities and provinces with low levels of internal displacement over the last 10 years as per the National Register of Internally Displaced Population administered by the Presidential Agency for Social Action and International Cooperation²⁰;
 - (ii) the application of selection criteria requiring that all interested farmers demonstrate legal land occupancy and the absence of individual criminal records;
 - (iii) the collection of information collection formats distributed by FEDEGAN and core partner agencies during PY1 dissemination events with farmers and ensuing training events, to obtain data on potential beneficiaries regarding land ownership and willingness to participate, among others;
 - (iv) the verification of information on land occupancy and individual records through certificates issued by judicial authorities in Colombia and the *ex ante* grievance and redressal system. The latter includes the public display of potential beneficiary lists in each municipality for people to see and raise issues if they suspect that individuals that do not meet the criteria have been included, and the installation of complaint boxes in sites considered impartial for local inhabitants to deposit their claims regarding preliminary selection²¹;
 - (v) final beneficiary selection from locally validated lists undertaken collectively by the project's Steering Committee to avoid local or regional pressures;
 - (vi) baseline assessments undertaken in farms by CIPAV and TNC personnel accompanying FEDEGAN technicians—agencies not seen by local communities as involved with illegal armed groups and therefore not preempting farmer enrollment in the project;
 - (vii) a social communications strategy that ensures local participation and feedback through:
 - periodic account rendition events in each area;
 - complaint boxes set up locally to deposit farmer claims regarding adverse impacts or beneficiary selection;
 - campaigns through local bulletins, gazettes, or community radio stations that include instructions and addresses (electronic or mail) to formally denounce irregularities; and
 - (viii) Local complaints would be permanently reviewed by the project's Steering Committee to ensure early warnings are generated and corrective measures devised. Consolidated claim reports would

last two years in the name of the Party who delivered the land for third-party use; a copy of the contract certifying the type of land tenancy, having at least a one year duration; and in the absence of a written contract, an affidavit certifying the type of land tenancy for at least one year and signed by the land owner as a witness (affidavit is valid for all types of tenancy except under temporary and permanent allotment and exploitation contracts signed with the INCODER).

²⁰ Beneficiary selection in municipalities where the number of internally displaced households expelled accounts for more than 15 percent of departmental displacement levels over the last 10 years would be closely analyzed by the project's Steering Committee to avoid exclusion through generalization, while ensuring that farmers with current associations to illegal armed groups are not included.

²¹ An arrangement could be achieved with Public Advocates or Ombudsmen in each municipality to establish or use existing formal mechanisms to make these claims.

also be examined during Bank supervision missions and MTR. Subsequent M&E indicators and checklists to guarantee that procedures have been adequately applied would be determined in the project's Operational Manual.

70. First-year efforts would focus on adequate outreach activities to inform stakeholders of project strategy and SPS benefits, as well as on adjusting proposed connectivity corridors to on-site realities. Initial peer-to-peer sessions and visits to farms successfully implementing SPS would take place with potential participants identified in each area to demonstratively explain SPS benefits, discuss associated implementation costs and technologies for different ecosystems, jointly identify possible funding sources, and discuss farmer concerns to adjust local strategies. Replication of PY1 training activities would be sought with support from local and regional cattle ranching associations/committees and TA providers. Neighboring farms not selected to participate but interested in adopting SPS would have access to the training offered under the project. Consultations on project progress with key public officials and local participant representatives would take place in the framework of the project's Public Policy committee described in Annex 6, as well as in regional events described above.
71. Barriers identified for small and medium-scale farmer participation are primarily related to compliance with conditions necessary to access FINAGRO's credit lines (e.g., lack of land titles and initial capital to assume transaction costs) and little interest from farmers in becoming financial system users. Proposed mitigation measures include: (i) strengthening producer associations for collective approaches to project instruments; (ii) in the framework of the project's Public Policy Committee, discuss with the MADR-FINAGRO any barriers encountered by small and medium-sized farmers to access FINAGRO loans and ICR to allow for flexible conditions for SPS applicants, as required; offering specific training to FINAGRO operators evaluating credit applications for SPS implementation; and consider setting up a special team within FINAGRO to focus only on small farmer applications; and (iii) considering microfinance and credit alternatives under recent implementation by the GoC and other institutions such as the *Bolsa Nacional Agropecuaria* (National Agriculture and Livestock Market) or the Biotrade Fund, among others.

E. Environment

72. The proposed project is expected to directly generate important global and local environmental benefits. It seeks to contribute to the conservation of globally important biodiversity in cattle ranching production systems, the reduction of emissions from deforestation and forest degradation, the improvement of rural adaptation to climate change, and the reduction of land degradation.. Connectivity between ecosystems would also include connectivity to PAs and their buffer zones, as areas have been chosen taking into account their geographic proximity to PA (see Annex 10B), among other criteria. This would enhance the benefits from SPS, allowing for not only more sustainable production systems and biodiversity protection within cattle ranching farms, but also for a multiplier effect for biodiversity protection when PA biodiversity protection and SPS contributions to biodiversity mutually reinforce one another.
73. Land uses fostering higher levels of biodiversity and carbon sequestration and reducing land degradation would be promoted in participating farms through the proposed financial, capacity-building, and market-based instruments. Resources would be directed to create connectivity corridors to reduce fragmentation of important natural ecosystems, through eligible land use adoption (see footnote 6 above). This strategy would also contribute to protect water springs, streams, rivers, and wetlands, since 80 percent of those corridors would be implemented in riparian habitats and their buffer zones. Equally, SPS adoption would contribute to the restoration of areas currently without vegetative cover and protect and restore degraded lands, as well as help reduce the use of farm areas

unfit for grazing such as steep slopes or areas protecting water courses and wetlands. The use of deep-root perennial trees in proposed SPS would reduce farmer vulnerability to environmental change, as such species are drought tolerant, act as wind barriers, and provide shade, helping farmers become more resilient to climate change. In addition, their use would enable more stable forage production during drier seasons.

74. The SPS practices to be supported by the project have demonstrated to substantially reduce total greenhouse gas emission from ranching, both directly (by sequestering carbon both in the soil and in trees) and indirectly (by reducing pesticide use and requiring fewer applications of nitrogen fertilizers and, through improved nutrition, reducing methane emissions from cattle). Carbon stocks measured in silvopastoral habitats were higher than in degraded lands, and GHG emissions were lower. Therefore, the proposed project is expected to provide enhanced carbon benefits, including for climate change adaptation and the reduction of emissions from deforestation and forest degradation.
75. Adverse environmental consequences from project implementation are highly unlikely and strictly unintended. The implementation of PES schemes along with the promotion of environmental and production good practices are expected to raise farmer awareness on sustainable natural resource management. The proposed strategy to promote SPS adoption is expected to provide key elements needed to make cattle ranching in Colombia more sustainable, including inputs for the necessary institutional framework and arrangements.

F. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Habitats (OP/BP 4.04)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forests (OP/BP 4.36)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pest Management (OP 4.09)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Physical Cultural Resources (OP/BP 4.11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Involuntary Resettlement (OP/BP 4.12)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indigenous Peoples (OP/BP 4.10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Safety of Dams (OP/BP 4.37)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects in Disputed Areas (OP/BP 7.60)*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways (OP/BP 7.50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

76. The project is classified as category “B”, which requires an environmental analysis, and triggers several safeguards, as listed above. The project team performed an environmental assessment (Annex 10) which, like the positive environmental results demonstrated by the GEF *Regional Silvopastoral Project*, highlights SPS benefits for biodiversity conservation, carbon sequestration, and water resources, among others.
77. The project is fully consistent with the Bank policies for natural habitats and forests. It would not promote any loss of remnant forest or other natural habitats, but rather help increase their connectivity through the proposed corridors. The recovery, use, and expansion of native tree and shrub species would be promoted within the farm-adopted SPS. In addition, pressure on forests to provide farm fencing would be reduced. PES contracts would condition annual payments to baseline conservation regarding mature forests and wetlands to discourage their conversion to productive land uses. The PES scheme would also avoid perverse incentives for deforestation by recognizing current conservation

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

efforts on participating farms through a baseline payment for the environmental quality of the current vegetation and subsequent annual payments.

78. The project would reduce the use of pesticide and herbicide-intensive techniques and would support an Integrated Pest Management approach that will include: (i) avoiding the use or promotion of pesticides with toxic categories I or II; (ii) promoting cultural practices (e.g. rotational grazing and SPS) that reduce the appearance of pests; (iii) promoting the use of biological controls; and (iv) avoiding the use of herbicides near water sources or the contamination of water sources with pesticide residuals when cleaning the equipment used. Compared to other intensive cattle ranching production systems, SPS have demonstrated their contribution to reduce the use of agrochemicals in farms (e.g., through the substitution of inorganic nitrogen fertilizers with nitrogen-fixing plants).
79. Project areas do not overlap with indigenous or Afro Colombian territories and no indirect impacts on these groups are expected from project interventions (see Annex 16 – map with project sites and collectively-owned territories). No involuntary resettlements would take place under the project as no land acquisitions are expected and no roads or other works would be built or supported. SPS and related on-farm land use changes would be adopted voluntarily in consolidated cattle ranching farms.
80. As the adoption of SPS has proved its contribution to reduce on-farm production costs, improve farm productivity while using less area, and increase demand for local labor in the case of intensive SPS, the proposed project is not expected to adversely impact sources of income or means of livelihood..
81. All project-related documents, contracts, and manuals will include clauses regarding environmental and socio-cultural safeguards, where applicable, to ensure adequate consideration of chance encounters with additional safeguards issues.

G. Policy Exceptions and Readiness

82. The proposed project does not require any exception from Bank policies and meets criteria for implementation readiness.

Annex 1: Country and Sector or Program Background

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Country and sector issues

1. About 38 percent of Colombia's total land surface is used for cattle ranching—an area that has expanded from 14.6 to 38 million hectares (ha) over the last fifty years, mostly at the expense of tropical forest. Through its impact on Andean and Amazon Basin forests, ranching-induced deforestation has historically been one of the main causes contributing to the loss of unique plant and animal species in Colombia. Secondary Andean forest with high biodiversity (close to 20 species of birds monitored per check point) has been replaced with degraded pastures. In addition, 66 percent of the land used as permanent pasture is degraded and otherwise unsuitable for grazing. Average stocking rates on these pastures are estimated at less than 1 animal per hectare (FEDEGAN, 2009).
2. From a socioeconomic perspective, cattle ranching is a key subsector given its contribution to GDP (3.5 percent), to agricultural and livestock GDP (27 percent) and to national and rural employment (7 and 28 percent respectively).
3. As with other agricultural activities, cattle ranching is carried out in areas where high poverty levels²², unequal income distribution, illiteracy, violence, and unequal land ownership prevail. Except for a small percentage of very large landowners, most landholdings are small. 82 percent of cattle ranchers have less than 50 animals per farm and face technological and financial limitations to participate in the subsector's development. Agriculture and livestock production can be a source of substantial rural growth and rural poverty reduction, particularly among small producers. To achieve this, the Government has implemented policies to: (i) provide incentives to increase productivity, (ii) finance asset improvement, and (iii) promote small producer access to markets, inputs, and new technologies such as silvopastoral production systems (SPS). In June 2007, the Ministry of Agriculture and Rural Development established the *Incentivo de Capitalizacion Rural (ICR)*²³ for any farmer interested in implementing intensive SPS with specific tree species and densities (timber and fodder)—an initiative promoted by the Colombian Cattle Ranching Association (FEDEGAN) with support from the Center for Research on Sustainable Agricultural Production Systems (CIPAV). FEDEGAN and the Fund for Agricultural and Livestock Sector Financing (FINAGRO) entered into an agreement to better integrate the offer of credit lines with technical assistance for cattle ranching, including for SPS.
4. SPS, which replace overgrazed and often degraded pastures with the use of complex vegetation combining trees, shrubs, and various herbaceous plant species for cattle grazing, provide an alternative to traditional livestock production practices and can, in many areas, improve the sustainability and productivity of cattle production, while creating an environment that is vastly more hospitable to biodiversity as well as carbon friendly. The RSPS Project implemented in Colombia, Costa Rica, and Nicaragua demonstrated the positive impact of SPS on biodiversity, carbon sequestration, and water quality, and that SPS are often privately profitable for farmers once established (see Annex 9). Intensive biodiversity monitoring under the project showed much higher numbers of bird, butterfly, ant, and other species in SPS when compared to the degraded pastures they replaced because of their increased complexity. Species identified in SPS farms included a large proportion of forest-dependent species and several critically endangered species (such as the Grasshopper Sparrow, *Ammodramus savannarum*).

²² Colombia's rural poverty rate is 68 percent (2005) and affects 8 million people, most of them small farmer families. The rural poor represent 36.5 percent of all the poor and 49 percent of all extremely poor.

²³ The ICR subsidizes agricultural investment provided that it is funded by a FINAGRO loan.

5. Preliminary evidence also indicates that SPS could act as an adaptation measure to climate change. SPS incorporate tree species that are drought tolerant and retain their foliage in the dry season, thus providing large amounts of high quality fodder that results in more stable milk and beef production, maintenance of the animals' body conditions and more secure assets for farmers. Under extreme climate change conditions that would affect temperatures and rainy seasons, cattle ranching in pastures without trees would be more vulnerable than in those with trees. SPS also fix significant amounts of carbon in the soil and in the standing tree biomass, as well as contribute to methane emissions reduction through improved quality of animal fodder and to reducing nitrous oxide emissions given less demand for nitrogen fertilizers. In addition, the results of the GEF *Regional Silvopastoral Project* showed that SPS were associated with a significant reduction in the use of fire as a pasture management tool.
6. Despite their on-farm and off-farm benefits, demonstrated by the RSPS Project, SPS have only been adopted to a limited extent in Colombia due to their high initial cost and their technical complexity. Moreover, many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services, are externalities from the perspective of individual landholders, who therefore have limited incentives to adopt them. The project's proposed strategy for the broader adoption of SPS in Colombia, led by key actors in the subsector's development such as FEDEGAN, would address the barriers associated with access to financial resources and technical assistance.

Country Eligibility and Drivenness

Sustainable development framework

7. Colombia has a well-developed legal framework for sustainable development. The Political Constitution in force since 1991 promotes environmental protection as: (i) an obligation for the State and individuals; (ii) a collective right and duty; (iii) a decisive factor to achieve the desired development model, and (iv) a limitation to the full exercise of economic rights, where such exercise conflicts with a public or social interest, e.g., regarding the ecological function and protection of natural resources.
8. Law 99 of 1993 restructures the Colombian institutional framework for environmental management and establishes the general principles for the country's environmental policy, among which: (i) national economic and social development shall be guided by the universal principles of sustainable development promoted by the Rio Declaration; (ii) the country's biodiversity—a national asset of interest to humanity—shall be protected and used in a sustainable manner; (iii) the landscape shall be protected as a common asset; and (iv) environmental protection and restoration is a joint task of the State, the community, nongovernmental organizations, and the private sector.
9. Colombia ratified the Convention of Biological Diversity on November 28, 1994 and adhered to the Convention to Combat Desertification on June 8, 1999. The National Policy for Biodiversity (1996) focuses on conservation, knowledge, and sustainable use, and establishes guidelines and strategies such as: sustainable renewable resource management plans, assessments of economic potential to ensure equitable use, protected areas, legislative and institutional strengthening, technology transfer, biodiversity information systems, and community training and participation.
10. Colombia ratified its commitment to sustainable development through document "CONPES 91/2005 – Goals and strategies of Colombia to achieve the Millenium Development Goals", which sets targets regarding natural forest cover and protected areas, among others, to achieve MDG7.

11. The NDP 2006-2010 establishes six central premises for environmental management in Colombia, three of which are closely related to the proposed project: i) sustainable and competitive production processes to improve environmental performance and access to national and international markets; ii) biodiversity knowledge, conservation and sustainable use; and iii) environmental planning in land management. The GoC's midterm policy document "*Colombia Vision 2019*" also includes biodiversity knowledge, conservation, and use as a key strategy for the promotion of sustainable development.
12. A National PES strategy is under formulation and would be adopted by the MAVDT to define the methodologies and implementation arrangements under which said payment schemes shall be applied, monitored, and evaluated in Colombia. The mechanisms designed and tested under the proposed project to guarantee long-term payments from ES users in cattle production areas would provide key lessons for this framework strategy.

Sector Development Framework

13. The proposed project is aligned with three of the NDP's main strategies for the rural sector: i) the creation of conditions for the development of a competitive agricultural sector that generates income and wealth in rural areas – the Sector Internal Agenda²⁴; (ii) the reduction of production costs to increase income levels and reduce poverty; and (iii) the modernization of land distribution schemes including access to irrigation, technology, credit, and other productive services. The proposed project would help validate a national strategy for the broader adoption of SPS which combines rural financial incentives, market-based instruments, extended technical assistance, strengthened rural entrepreneurship, and lessons for enabling institutional environments.
14. The clean production policy ensuing from Law 99/93 mandates concerted public and private efforts to ensure sustainable sector management. FEDEGAN has led these efforts in the cattle ranching subsector under the Scientific and Technological Cooperation Agreement signed with the MAVDT to: (i) promote sustainable natural resource use throughout the beef and dairy production chains, and (ii) facilitate the insertion of cattle ranching companies in the green and environmental services markets. An Environmental Guide for Sustainable Cattle ranching developed by FEDEGAN and the MAVDT will be launched in 2009.
15. FEDEGAN is committed to an administration model for regional cattle production that involves: (i) an economic component to improve productivity indicators and reduce production costs (ii) an environmental component for the adoption of technologies enabling the sustainable use of natural resources involved in cattle production, through its programs for intensive SPS and cleaner production systems; and (iii) a social component to improve living conditions in productive areas. The model is implemented through its regionally-based, technological service centers known as TECNIGANES.
16. The cattle ranching sector's *Strategic Plan for Colombian Cattle Ranching 2019* developed by FEDEGAN seeks to increase national competitiveness to better access international markets, among others, by introducing strict international environmental standards into cattle production systems. It has set a revolutionary objective to withdraw 10 million ha. of unsuitable grazing land from cattle ranching production by 2019 through the adoption of SPS. The goal is to help improve the sector's competitiveness and promote value-added meat and dairy products in the wake of free trade agreements to be signed with the United States and others.

Rationale for Bank Involvement

24 The "Sector Internal Agenda" is part of the "Colombian Internal Agenda for Productivity and Competitiveness", a strategy prepared by the Colombian authorities addressing key barriers to competitiveness. It was developed through a broad consultation, including over 1,000 regional and 150 sector-specific meetings in 2004-2005.

17. The proposed project is consistent with the Bank's Country Partnership Strategy (CPS) for Colombia during FY2008-2011, which supports the country's development goals as expressed in the NDP and longer-term development strategy "*Colombia Vision 2019*". The NDP lays out a comprehensive set of programs built around six main pillars²⁵ that form the basis for the CPS. Bank support is focused on: (i) sustained equitable growth; (ii) poverty alleviation and equity of opportunity; (iii) promotion of environmental sustainability; (iv) peace and security for citizens; and (v) efficient and effective government. The proposed project contributes to the CPS focus on sustainable and equitable development for: (i) improved natural resource management and strategic ecosystem conservation; (ii) strengthened regionally-based rural development strategies and partnership opportunities with the private sector to accelerate environmental mainstreaming in priority sectors in Colombia, as well as employment opportunities for the rural poor; and (iii) knowledge transfer through environmentally-friendly rural projects conducive to policies for sustainable land use management and sector production.
18. The Bank has a strong comparative advantage in supporting PES approaches to environmental and rural development, having worked on implementing these approaches for almost a decade. It is uniquely placed to continue learning from the experiences and to disseminate knowledge gained to policy-makers in Colombia and other countries and regions.

Higher level objectives to which the project contributes

19. The proposed project supports the Strategic Objectives of the GEF Biodiversity Program to mainstream biodiversity conservation in production landscapes and sectors, and the GEF Land Degradation Program aimed at upscaling sustainable land management investments that generate mutual benefits for the global environment and local livelihoods. Project components fall under the GEF strategic program BD-SP5 fostering markets for biodiversity goods and services, as well as LD-SP1 supporting sustainable agriculture and rangeland management, by promoting environment-friendly land use practices through rural financial incentives, ecomarket-based instruments, and partnerships with key public and private actors in the cattle ranching sector. The project would contribute to the following indicators being applied by the GEF Biodiversity Program: (i) coverage in hectares of production systems that contribute to biodiversity conservation or the sustainable use of its components; (ii) integration of biodiversity aspects into sector policies and plans at a national level; and (iii) improved livelihoods.

²⁵ Peace and Security; Equity; High and Sustainable Growth; Environmental Sustainability; Good Governance; and transversal themes.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Sector Issue	Project Name	Latest supervision ratings (ISR)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Rural development	Colombia – Second Rural Productive Partnerships (P104567)	S	S
Rural development	Colombia – Agricultural Transition (P082167)	S	S
Rural development in conflict-afflicted regions	Colombia – Peace and Development (P051306)*	S	S
Rural development / Sustainable Land Management	Kenya – IDA/GEF blended Agricultural productivity and sustainable land management (P082396 / P088600)	Closed, S**	Closed, S
Rural development / Biodiversity conservation and sustainable use	Panama – IBRD/GEF blended Rural productivity and consolidation of the Atlantic Mesoamerican Biological Corridor (P064918 / P083045)	S	MS***
Natural Resource Management / Biodiversity	Mexico – IBRD/GEF blended Environmental Services Project (P087038)	S	S
Natural Resource Management / Biodiversity	Costa Rica – IBRD/GEF blended ‘Mainstreaming Market-Based Instruments for Environmental Management’ project (P093384 / P098838)	MS	MS
Natural Resource Management / Biodiversity	Costa Rica – IBRD/GEF blended Ecomarkets Project (P052009 / P061314)	Closed, S	Closed, S
Natural Resource Management / Biodiversity	El Salvador – IBRD/GEF blended Environmental Services Project (P064910 / P070352)	Cancelled	Cancelled
Environmental policy framework and institutional capacity	Colombia – Sustainable Development DPL series	S****	HS
* Additional financing operation (P101277) is under identification ** Ratings correspond to IDA operation that closed on 12/31/2008; GEF operation is in its final preparation stage *** Latest DO Rating for IBRD operation is S ****Ratings for the Sustainable Development DPL II (P095877); DPL III (P101301) was approved on 12/19/08			

Bank-managed

Natural Resource Management / Biodiversity	Colombia/Costa Rica/Nicaragua – GEF Regional Integrated Silvopastoral Approaches to Ecosystem Management (P072979)	Closed, S	Closed, HS
Natural Resource Management /	Colombia – The Netherlands Grant ‘Conservation incentives for land management and socio-environmental conflict mitigation’	Under preparation	
Natural Resource Management / Biodiversity	Brazil – GEF Espírito Santo Biodiversity and watershed conservation and restoration project (P094233)	Board approval: 11/18/08	
Natural Resource Management / Biodiversity	Colombia: GEF Conservation and Sustainable Use of Biodiversity in the Andes Region (P063317)	Closed, S	Closed, MU
Natural Resource Management / Biodiversity	Colombia: GEF Naya Biological Corridor in the Munchique-Pinche Sector (Mid-sized, P057026)	Closed, S	Closed, S

Other development agencies

Natural Resource Management/ Biodiversity in productive landscapes	Colombia – GEF/UNDP Mainstreaming Biodiversity in the Coffee Sector in Colombia	Under preparation – to create an enabling environment for conservation and sustainable use of biodiversity in coffee productive landscapes	
Natural Resource Management/ Biodiversity in productive landscapes	Regional – GEF/UNDP Regional Biodiversity Conservation in Coffee: Transforming Productive Practices in the Coffee Sector by Increasing Market Demand for Certified Sustainable Coffee	Under implementation – to scale-up sales of certified sustainable coffee into mainstream and niche markets	
Rural development	USAID – MIDAS Agribusiness component	Under implementation - to promote and generate new sources of alternative sustainable development	

Annex 3: Results Framework and Monitoring
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
<p>Global Environment Objective: To promote the adoption of environment-friendly silvopastoral production systems in Colombian cattle ranching in project areas, to improve natural resource management, enhance the provision of environmental services (biodiversity, land, carbon, and water), and raise the productivity in participating farms</p>	50,500 ha. of environment-friendly cattle ranching production systems ²⁶ implemented in 5 project areas	PY1-3: Verify land use changes in project areas and devise corrective measures if 60 percent of target has not been achieved by PY3
	5 % increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs	PY1-4: Assess the extent to which SPS effectively contribute to productivity increase in cattle ranching farms
	Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS in participating farms in project areas, over baseline	PY1-3: Assess the presence of globally important biodiversity in productive landscapes under project
	Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline	PY3: Assess contributions of SPS to reduce land degradation as measured by soil erosion and other indicators as needed
	At least two PES mechanisms financed by local users of environmental services, implemented by project end	PY1-3: Assess the number of ES users willing to participate, and redirect PES strategy if commitments have not been ensured in at least 2 areas
	Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.)	PY5: Support the sector's Strategic Plan 2019 in the promotion of sustainable livestock production
	2,000 cattle ranching farms benefitting from project instruments (technical assistance, PES, or support for credit access)	PY1-3: Assess the number of farms entering project, and reinforce communication strategy if 70 percent of target has not been achieved by PY2
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring

²⁶ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system:

- its increase of vegetative cover in farms, including trees
- its decrease of agrochemicals of fossil origin (pesticides and fertilizers)
- its contributions to decrease soil erosion
- its overall contribution to improve the quality of the landscape

<p>Component 1. Improving productivity in participating cattle ranching farms in project areas, through SPS</p>	<p>12,000 ha of intensive SPS implemented in 5 project areas</p> <p>10% increase in average stocking rate (cows/ha) in intervened project areas</p> <p>30% decrease in the use of fertilizers and herbicides in participating farms in project areas</p> <p>2,000 cattle ranching farmers trained in SPS and informed about availability of credit sources</p> <p>Training strategy designed and applied to prepare trainers, farmers and TA providers in environmental and productive good practices</p>	<p>PY1-3: Verify land use changes in project areas and devise corrective measures if 30 percent of target has not been achieved by PY3</p> <p>PY3-5: Assess SPS contribution to improved productivity in cattle ranching farms</p> <p>PY1-3: Assess the number of farmers informed and accessing financial services offered, and adjust strategy if small and medium-sized producers have limited access.</p> <p>PY1-5: Assess alliances set up to guarantee quality training offer in sustainable livestock practices</p>
<p>Component 2. Increasing connectivity between ecosystems and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes</p>	<p>38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented in terrestrial and riparian connectivity corridors²⁷):</p> <ul style="list-style-type: none"> ▪ 2,000 ha of degraded land recovered with vegetation cover ▪ 31,500 ha of pastures with trees or live fences ▪ 5,000 ha of remnant natural ecosystem conserved in cattle ranching farms in project areas <p>50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species</p> <p>50% of water springs and streams present in intervened project areas protected with riparian buffers</p> <p>Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline</p>	<p>PY3: Assess the extent to which participating farms effectively enhance the connectivity of remnant natural ecosystems</p> <p>PY3-5: Assess the effectiveness of proposed PES incentives for biodiversity conservation and ES generation in farms, and adjust as necessary</p>

²⁷ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian corridors or other landscape elements; their design includes a core strip for strict conservation purposes and buffer strips on each side that may include secondary succession for conservation or SPS.

<p>Component 3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching</p>	<p>At least 3 strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments</p> <p>M&E system established and providing timely and relevant information on project’s direct and indirect impacts in aid of decision-making processes</p> <p>SPS have been tested as a strategy for climate change adaptation in two pilot areas</p> <p>Communications strategy implemented for different target audiences (mainly policy-makers and farmers)</p>	<p>PY3: Assess the effectiveness of institutional arrangements to ensure satisfactory project implementation and adjust them if needed</p> <p>PY1-5: Adjust project implementation according to M&E results</p> <p>PY3-5: Assess SPS contributions to CC mitigation and adaptation</p> <p>PY1-5: Assess the strategy’s effectiveness in generating information contributing to the broader adoption of sustainable production systems</p>
<p>Component 4. Project management</p>	<p>Project Implementation Team set up and working effectively to coordinate national and regional project execution</p>	<p>PY1-5: Assess and adjust implementation arrangements, as needed</p>

Arrangements for results monitoring

1. The project's M&E would be designed to measure: (i) the project's administrative activities at the national and regional levels, including the consolidation of the oversight and coordination mechanisms for project implementation described in Annex 6, and (ii) the project's progress towards achieving its development and global environmental objectives, based on the results-framework previously described.
2. **Administrative activities and implementation progress.** The Project Implementation Team (PIT) placed within FEDEGAN would be responsible for monitoring financial management (including budgeting, treasury, accounting, and audits), procurement management, and implementation progress against Annual Operative Plans approved by the project's Steering Committee (see Annex 6). Information on implementation progress in each area would be consolidated by the project's regional coordinators located in FEDEGAN's Regional Development Units and reported to the PIT on a quarterly basis. Standardized report formats would be used to collect information on inputs and outputs in each region (e.g., agreements signed and implemented with local stakeholders), as well as information from Core partner agencies to track implementation status. Model formats would be included in the project Operational Manual. Information would be integrated with the support of a Management and Information System (MIS).
3. The MIS would generate the following information: (i) technical, financial, and procurement management reports as required by the Bank supervision missions and included in the Grant Agreement; (ii) disbursement requests and supporting documentation (unaudited statements of receipts, disbursements and fund balance, etc.); and (iii) co-financing reports for GEF reporting requirements.
4. **Progress towards achieving project's Global Environment Objective.** The proposed project seeks to assess the contribution of SPS and related instruments to promote their implementation in key production regions with different physical and social characteristics in terms of altitude, rainfall, soil type, proximity to varying ecosystems, barriers to increased production, among others.
5. The M&E plan under the proposed project includes an **impact evaluation** with the purpose of:
 - (i) Assessing the effectiveness of PES as a strategy to promote the adoption of SPS in each region;
 - (ii) Assessing the impact of introducing SPS in farms on the provision of ES in each region;
 - (iii) Assessing the impact on ES provision of prioritizing project interventions in connectivity corridors, particularly biodiversity conservation at the landscape and ecoregion levels (to evidence effects on ecosystem connectivity); and
 - (iv) Assessing the impact of introducing SPS on farm productivity, with particular attention to small and medium-scaled farmers.
6. To determine the effectiveness of the proposed PES scheme to promote farmer adoption of the desired SPS and related land use changes, a control group of cattle ranchers randomly selected from eligible beneficiaries (registered during the project's local dissemination events during PY1 and 2 and verified by the project's Steering Committee as complying with selection criteria per region) would be established. Farmers in the control group (approximately 500 in total) would have access to training and technical assistance under the project but would not benefit from PES. Farmers in the treatment group (1,500 in total) would also be randomly selected from the potential beneficiary list compiled during PY1 and 2 and benefit from all project instruments, including PES. For at least 3 years, farms in both groups would be monitored once a year to measure land use changes adopted and compare against baseline values determined during initial farm surveys conducted by FEDEGAN and Core partner agencies. Annual verification of land use changes would serve to certify compliance with PES

contracts and determine payment levels, as well as measure farm area under each land use listed in the Environmental Service Index and its change in ha. regarding baseline. By project end, data for this coverage indicator in control vs. treatment farms would enable a comparison as to the effectiveness of PES to induce adoption of SPS-related land use changes.

7. To measure the impact of introducing SPS in farms on the provision of ES in each region, four services would be analyzed: biodiversity conservation, land restoration, carbon sequestration and water quality. At least three SPS-related land uses (intensive SPS, live fences, and trees in pastures) would be monitored for bird and focal plant species present at project start and during implementation in five plots per land use per region, and compared against levels in well-preserved forests and pastures without trees. Baseline inventories of species would be undertaken at project start and each year until project end.
8. The impact on biodiversity conservation of prioritizing project interventions in connectivity corridors would be measured by annually comparing the presence of bird and focal plant species in two land uses (pastures with trees and secondary forests) in beneficiary farms located outside connectivity corridors against those located in corridors. At least five plots per land use would be monitored in three of the five project areas. Biodiversity of aquatic organisms would be assessed in riparian connectivity corridors effectively established and selected for their bio-geographical importance.
9. The impact of introducing SPS in farms on land restoration would be measure in beneficiary farms that implement any or all SPS and are located in the Caribbean region and the high slopes of the coffee growing ecoregion. The increase in vegetation cover (has) would be assessed against baseline values of farm areas without cover and annually measured on-site. The density and abundance of worms and dung-feeding beetles would also be measured as an indicator of soil recovery, with measurements taken prior to project start in selected farms and three years after the adoption of SPS-related land use changes.
10. The impact of introducing SPS in farms on carbon sequestration would be measured in at least twenty beneficiary farms by setting up plots per land use and measuring organic matter in the soil before the adoption of the relevant SPS and in PY4 to compare tons of CO₂ equivalent present in each plot.
11. The impact of introducing SPS in farms on water quality and flow regulation would be measured in the high basin of the Quindio River and the Tulua River basin, as they have been prioritized for the establishment of long-term PES schemes financed by local ES users. In each basin, two nearby microcatchments of similar characteristics would be monitored: one where project activities are taking place and the other without project intervention. Water flow and sedimentation levels would be monitored in each microcatchment throughout project.
12. In addition, the contributions of three land uses (pastures without trees, intensive SPS, and secondary forests) to sedimentation and run-off would be assessed through the implementation of 10x5m run-off plots with five repetitions per treatment. Measurements would be taken in five participating farms for two months each year throughout project lifetime.
13. As for the impact of introducing SPS on farm productivity, treatment and control farms would be randomly set up from the list of eligible farmers compiled during PY1 and 2, whereby nearly 600 control farms would not benefit from any instrument throughout project. Production indicators included in the results framework above such as milk and beef produced per ha and animal stocking rates, along with related production costs associated with the use herbicides and fertilizers would be measured at project onset and each year thereafter. Income and financial returns for selected SPS-related land use changes would also be measured and included in farm surveys.

14. Farm data would be analyzed for small and medium-scaled farmers (identified using data from the initial registry of potential beneficiaries) to monitor impact on this population. In addition, access to subsidized FINAGRO credit would also be registered and its contribution to farm productivity assessed by PY3 and 5 in comparison with similar farmers in project areas not taking part in project.
15. Finally, all farms in the *La Vieja* River basin that took part of the RSPS Project in Quindio and Valle del Cauca (with 2 and 4 year payments or control) would be evaluated during PY1 and 5 to determine: (i) if sustained or increased adoption of SPS present at project end, occurred after payments ceased, and (ii) if adopted land use changes were dropped or reversed after payments ceased, including to identify the uses they were substituted with.
16. Standardized report formats would be consolidated annually by the PIT with the following information from each area: (i) SPS established in participating farms; (ii) variations in ES, compiled through the ES index; (iii) PES contracts signed and implemented; (iv) variations in farm productivity; (v) credits and ICRs allocated to participating farmers, particularly to small and medium-scaled farmers; (vi) training agreements with TA providers, and training in good production and environmental practices (GPEP) offered to stakeholders; and (vii) linkages established with policy makers and instruments.
17. Final and intermediate outcome indicators included in the project's results framework would be monitored as per the arrangements included in the table below indicating the type and frequency of reports and the project partner responsible for data collection. The information would be compiled by the PIT with Core partner agency support, particularly regarding biodiversity and ES provision. An M&E protocol would be developed by CIPAV and TNC detailing procedures and indicators at the farm, the landscape, and the ecoregion levels. This protocol would be transferred to FEDEGAN and FPAA for their enrichment and use, or be directly administered by CIPAV and TNC. Information collection and analysis of these indicators would take place on a periodic basis, with active participation by farmers where possible.
18. Land use changes would be monitored with the support of remote sensors such as satellite images, aerial photographs, and Global Positioning Systems (GPS) according to the availability of these resources in each area. Information provided by these sensors would be processed in Geographic Information System (GIS) software, once land use changes have been verified *in situ*. It is anticipated that professional services, consultants, or specialized agencies would be hired to perform selected M&E activities, particularly regarding the project's impact evaluation.
19. Information provided by administrative and technical progress reports would be assessed periodically by the project's Steering Committee to address any implementation weaknesses and adjust project strategies as required. In addition, these reports would provide the basis for the Bank's bi-annual supervision missions, including the project's mid-term review and completion assessment. Finally, impact evaluation results would enable the Bank and project partners to promote the proposed strategy for the adoption of environment-friendly cattle ranching production systems among key policy-makers.

Arrangements for results monitoring

Project Outcome Indicators	Target Values (%)						Data Collection and Reporting		
	Baseline	YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
50,500 ha. of environment-friendly cattle ranching production systems implemented in 5 project areas	0	26	60	91	100	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN
5 % increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs	0	10	30	50	80	100	Mid-term, Final		Progress reports by EA based on Annual Operative Plans (POAs)	FEDEGAN
Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS in participating farms in project areas, over baseline	0	10	30	50	70	100	Annual, Mid-term, Final	M&E Reports from	CIPAV
Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline	0	0	30	50	70	100	Annual, Mid-term, Final	FEDEGAN and project partners	CIPAV
At least two PES mechanisms financed by local users of environmental services, implemented by project end	0	30	60	80	90	100	Annual, Mid-term, Final		FPAA & TNC
Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.)	0	10	30	50	70	100	Mid-term, Final		FEDEGAN
2,000 cattle ranching farms benefitting from project instruments (technical assistance, PES, or support for credit access)	0	20	70	100	100	100	Semiannual, Annual, Mid-term, Final		FEDEGAN
Intermediate Outcome Indicators:									
Component 1:									
12,000 ha with intensive SPS implemented in 5 project areas	0	10	20	50	85	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN
10% increase in average stocking rate (cows/ha) in intervened project areas	0	10	30	50	80	100	Mid-term, Final		Progress reports by EA based on POAs	FEDEGAN
5% increase in milk and/or beef production per intervened ha in participating farms, with a reduction of outside inputs	0	10	30	50	80	100	Mid-term, Final	M&E reports from FEDEGAN and project partners	FEDEGAN
30% decrease in the use of fertilizers and herbicides in participating farms in project areas	0	10	20	50	85	100	Annual, Mid-term, Final		FEDEGAN
2,000 cattle ranching farmers trained in SPS and informed about availability of credit sources	0	20	70	100	100	100	Semiannual, Annual, Mid-term, Final		FEDEGAN
Training strategy designed and applied to prepare trainers, farmers, and TA providers in environmental and productive good practices	0	10	30	50	80	100	Semiannual, Annual, Mid-term, Final		FEDEGAN, CIPAV & TNC
Component 2 :									
38,500 ha under PES scheme in 5 project areas (15,750 ha of which are implemented in terrestrial and riparian connectivity corridors)	0	28	63	92	100	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FPAA, CIPAV & TNC
50 focal plant species used/conserved in cattle ranching farms, 25 of which are globally important species	0	5	25	50	80	100	Annual, Mid-term, Final	Progress reports by EA based on POAs	CIPAV.

50% of water springs and streams present in intervened project areas protected with riparian buffers	0	10	30	50	70	100	Annual, Mid-term, Final	M&E reports from FEDEGAN and project partners	TNC & CIPAV
Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline	0	10	30	50	70	100	Annual, Mid-term, Final		CIPAV
Component 3:									
At least 3 strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments	0	80	100	100	100	100	Semiannual, Annual, Mid-term, Final	Reports from FEDEGAN and project partners	FEDEGAN, CIPAV, TNC, FPAA,
M&E system established and providing timely and relevant information on project's direct and indirect impacts in aid of decision-making processes	20	50	70	80	100	100	Semiannual, Annual, Mid-term, Final	Progress reports by EA based on POAs Project committees AM	FEDEGAN, CIPAV, TNC & FPAA
SPS have been tested as a strategy for climate change adaptation in two pilot areas	0	10	30	50	70	100	Semiannual, Annual, Mid-term, Final	On-site/farm surveys	FEDEGAN & CATIE
Communications strategy implemented for different target audiences (policy-makers, farmers, general public)	0	10	25	40	70	100	Semiannual, Annual, Mid-term, Final		FEDEGAN

Annex 4: Detailed Project Description

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

1. The Global Environment Objective is to promote the adoption of environment-friendly silvopastoral production systems²⁸ in Colombian cattle ranching in project areas, to improve natural resource management, enhance the provision of environmental services (biodiversity, land, carbon, and water), and raise the productivity in participating farms.

2. Key performance indicators for the project would include:

For biodiversity

- 50,500 ha of environment-friendly cattle ranching production systems implemented in 5 project areas
- Improved presence of globally important biodiversity in project areas, as measured by an increase in the Environmental Services Index resulting from the adoption of environment-friendly SPS implemented in participating farms in project areas, over baseline;

For land management

- Reduced soil erosion (tons/ha) induced by the adoption of SPS and measured in at least 2 pilot areas, over baseline;

For productivity

- 5 percent increase in the production of beef and/or milk per intervened hectare in participating farms, with a reduction of outside inputs;

For institutional framework strengthening

- At least two PES mechanisms financed by local users of environmental services, implemented by project end; and
- Strategy for the broader adoption of SPS in Colombia validated and adjusted during project implementation, ready for adoption by FEDEGAN and other strategic allies (e.g. National Planning Department, Ministries of Agriculture and Environment, etc.).

3. The primary target group are predominantly small to medium-scale farmers from the following five regions: (i) the traditional livestock production region in the Cesar River Valley; (ii) the adjacent lower Magdalena River region; (iii) the traditional dairy cattle production regions of Boyacá and Santander (linked to the “Andean Oak Forests Corridor”); (iv) the coffee producing ecoregion and upper Cauca river, and (v) the low foothill region in the eastern cordillera of southern Meta. Although the proposed project would focus on small and medium-sized farms as per land extension²⁹, large

²⁸ 4 criteria are employed to assess the environment-friendliness of a cattle ranching production system:

- its increase of vegetative cover in farms, including trees
- its decrease of agrochemicals of fossil origin (pesticides and fertilizers)
- its contributions to decrease soil erosion
- its overall contribution to improve the quality of the landscape

²⁹ Taking into account the results from the social assessment and criteria employed by rural legislation in force, the proposed project would use farm extension to classify farmer size with differentiated ranges to adequately respond to regional differences:

Region	Small-size (ha.)	Medium-size (ha.)	Large-size (ha.)
Cesar River Valley	4 – 70	71 – 200	>200
Lower Magdalena River	4 – 70	71 – 200	>200
Boyacá - Santander ‘Andean Oak Forests Corridor’	2 – 10	11 – 50	> 50
Coffee growing ecoregion	2 – 25	26 – 100	>100
Low Eastern foothills of southern Meta	4 – 70	71 – 200	>200

Beneficiary selection criteria applied by the project’s Steering Committee to a list of potential beneficiaries registered during dissemination events in PY1 and 2 and locally validated, would include that: (i) farmer is head of household; (ii) farmer

owner participation will be allowed when it contributes to achieve project objectives regarding the provision of key environmental services (biological connectivity, carbon sequestration, watershed management, and land restoration). Nonetheless, the selection criteria would apply to all cattle ranchers interested in participating, regardless of their size.

4. The RSPS Project demonstrated that not all silvopastoral practices have the same profitability for farmers or contribute equally to biodiversity conservation. The project would therefore apply distinct strategies in each area to promote environment-friendly land management in cattle ranching farms.
5. Total project cost is US\$42 million, of which the GEF would finance \$7 million. The proposed project would focus on reducing key constraints to the adoption of land use practices that are beneficial both for the farmer and the environment, such as lack of knowledge or capital, through the following components:

Component 1. Improving productivity in participating cattle ranching farms in project areas, through SPS (Total cost US\$30.9M; GEF financing \$1.7M)

6. The aim of this component is to sustainably increase productivity in cattle production farms through the adoption of environment-friendly SPS. The component is based on the knowledge gained during the RSPS Project which demonstrated that certain land uses, such as intensive SPS with the fodder tree *Leucaena*, are highly profitable for farmers and that their adoption can be induced if the main barriers regarding the lack of financial resources and specialized technical assistance in each area are overcome. This component would provide initial support to finance the costs of correctly implementing silvopastoral practices most suited to regional conditions, taking into account their contributions to climate change resilience and adaptation in farms.
7. The proposed project would offer a package that includes: (i) farmer training and TA to promote correct SPS implementation and management, along with good production and environmental practices (GPEP) in participating farms, and (ii) support to access attractively-priced loans from the GoC's second-tier bank FINAGRO already in place for the adoption of intensive SPS with specific tree densities and species (fodder and timber), as well as awareness-raising about other financial resources available, particularly for small and medium-scale farmers. TA to design and implement SPS conversion plans would be provided through FEDEGAN's assistance centers and other regional/local TA providers in project areas. The main activities of this component would include:
8. **Subcomponent 1.1. SPS training to national, regional, and local TA providers.** Training would target FEDEGAN's regional technical staff and other technicians from previously identified TA providers in each area (e.g., the National Learning Service, SENA; regional universities; farmer associations, etc.) and would focus on SPS implementation and management, the establishment of GPEP, and the implementation of an Integrated Pest Management (IPM) approach as included in the plan developed during the project's preparation (see Annex 10). Training would also cover the topics of integrated and participative planning of farm production and conservation activities, including the use of the land use planning tool developed by TNC and CIPAV to help farmers assess the economic returns of different land use alternatives.

certifies legal land occupancy pursuant to Colombian rural legislation currently in force; (iii) cattle ranching is the main production activity and the main source of income for farmer; and (iv) farmer does not have pending investigations in association with illegal armed groups, as certified through the judicial certificate issued by the Administrative Department of Security (DAS). Inclusion would not be based on affiliation to FEDEGAN or counterpart regional/local cattle ranching associations or committees.

9. CIPAV would initially lead the provision of training to FEDEGAN's regional assistance centers (TECNIGANS), which would include the production of written material with key technical information. TECNIGANS would then assume the provision of TA in each project area and FEDEGAN would work with previously identified national, regional, and local TA providers to formally organize and replicate training activities. CIPAV would continue to provide technical assistance through field visits in each area to support TECNIGANS as required and ensure their effectiveness. TNC and CIPAV would develop a series of theoretical-practical workshops on integrated and participative farm planning, including on the use of the land planning tool described, with field work for hands-on learning.
10. **Subcomponent 1.2. Beneficiary selection and baseline assessments.** Based on information collected during first-year project dissemination events held at the local level and subsequent specialized training events, the project's Steering Committee would undertake beneficiary selection against agreed upon criteria. CIPAV and TNC would then carry out land use and environmental baseline assessments in selected farms.
11. **Subcomponent 1.3. TA to farmers and implementation of SPS in the different regions.** Participatory land use planning would take place with farmers during the first year with support from the planning tool developed by TNC and CIPAV, followed by participatory monitoring of agreed-upon indicators over the project's lifetime³⁰. TA would be provided by TECNIGANS (based on their rural extension model) and other partner TA providers, including support for farmer credit applications; guidance on SPS-related land use planning, implementation, and management; and advice on GPEP implementation as well as IPM. Farmer training (for both farm administrators and workers) would be provided to participating farms, interested neighboring farms, and affiliates of cattle ranching associations through local workshops and peer-to-peer sessions, as well as visits to farms that are successfully implementing SPS in each area. To further enhance capacity-building efforts, students of agricultural and livestock careers would be involved in project activities through internships or thesis work on farms or in FEDEGAN's regional units, thus replicating a successful training method employed under the RSPS Project.
12. **Subcomponent 1.4. Improving access to financial resources for SPS adoption.** FINAGRO has earmarked funds for a line of credit to finance the adoption of intensive SPS, where an ICR can subsidize 40 percent of the credit cost³¹. This subcomponent would initially work to overcome the barriers identified for small and medium-scale farmer access, mainly related to FINAGRO's eligibility criteria, little farmer interest in becoming indebted, and unawareness of the existence of the subsidized credit line. This subcomponent would: (i) undertake outreach activities with potential participants in each area to demonstratively explain SPS benefits, associated implementation costs and technologies for different ecosystems, and jointly identify possible funding sources; (ii) help interested farmers plan and strengthen their credit applications; (iii) promote collective approaches to credit applications, including through farmer cooperatives and producer associations; (iv) in the framework of the project's Public Policy Committee, discuss with the MADR-FINAGRO any barriers encountered by small and medium-sized farmers to access FINAGRO loans and ICR to allow for flexible conditions for SPS applicants, as required, and consider setting up a special team within FINAGRO to focus only on small farmer applications; (v) enter into agreements with FINAGRO operators to expedite SPS credit application processing and/or train SPS application evaluators on the nature of projects; and if credit remains inaccessible to farmers, (iv) promote alternative sources of funding for small and

³⁰ Among other aspects, the land management plans agreed upon with farmers would foresee that tree cover is maintained at levels that support productivity, through tree pruning.

³¹ Memorandum No. 135 issued on June 2007. To date, 19 applications to this credit line have been approved and disbursed, 8 of which subsidized with an ICR.

medium-scale farmers such as microcredit offered by the GoC and other institutions, funding programs through the National Agriculture and Livestock Market, or cheaper credits for biodiversity-related investments from the Biotrade Fund.

13. **Subcomponent 1.5. Assessing and adjusting sector technologies applied in each project area.** A menu of SPS practices to be implemented in each area, including suitable tree density and species, has been defined according to local weather and soil conditions, and previously implemented SPS are being assessed with farmers and adjusted to local circumstances, as required. During project implementation, detailed baseline farm assessments would take place prior to interventions in order to evaluate water availability, soil conditions, and other technical conditions which may challenge the successful implementation of SPS. CIPAV’s field visits during project implementation would also serve to adjust technologies in each area as needed. Under this subcomponent, CIPAV would undertake applied research and studies, beginning with an inventory of ongoing SPS initiatives in Colombia to identify and capitalize on existing efforts in different ecosystems.
14. **Subcomponent 1.6. Supporting market-based instruments to secure long-term funding.** FEDEGAN would finance business plans for the promotion of a SPS quality seal for beef and dairy products from participating farms (based on its recently launched, internationally-certified, quality seal for meat³²) to assess certification as an additional source of funding flows for the adoption of SPS. In addition, the proposed project would support efforts to market agroecotourism in farms where it is implemented, particularly in the coffee ecoregion and the low foothills of *Meta*. Linkages would be sought with the existing Agro and Ecotourism network and other organizations supporting sustainable rural tourism in Colombia. TNC would support agroecotourism efforts by helping interested farmers plan the financial sustainability of their services/activities, adapting its training tool developed for ecotourism in protected areas.

Component 2. Increasing connectivity and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes (Total cost US\$6.5M; GEF financing \$3.8M)

15. The aim of this component is to increase connectivity between natural ecosystems in cattle ranching landscapes through the establishment of riparian and terrestrial corridors³³. Biodiversity assessments completed during project preparation for the five areas found that natural ecosystems represent about 32 percent of the total intervention area, but are highly fragmented. Spatial analysis helped determine key natural ecosystem remnants in each area, as well as the priority axes along which to connect and conserve them during project implementation. The assessments determined that corridors totaling 1,450 km are needed to connect key remnants along water courses (80 percent) or on land (20 percent) in the five cattle ranching landscapes. Their design includes a core strip for strict conservation purposes and buffer strips for secondary succession for conservation or SPS, as follows:

Table 4. Possible land uses within connectivity corridors

Corridor strip	Natural Ecosystem preservation	New areas for conservation	Pastures with trees	Intensive SPS	Live fences
Core (10m)	Yes	Yes	No	No	No

³² Since its launch in November 2008 (preceded by two years of technical development), FEDEGAN’s seal has been adopted by: 47 cattle ranching enterprises, 7 slaughterhouses, 2 meat-processing plants, and 2 hypermarkets (large retail facilities combining food, household merchandise, and other products such as clothes, furniture, appliances, electronics, toys, sporting goods, etc.). In addition, nearly 300 additional companies in the production chain are registered for certification, and 10 restaurants are also seeking to be certified. An estimated 2,800 dressed carcasses per month are placed in both hypermarkets that have adopted the seal.

³³ Corridors of tree or shrub-like vegetation connecting fragments of natural ecosystems through riparian or other landscape elements.

Buffer (40m)	Yes	No	Yes	Yes	Yes
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16. These most desirable and relevant land uses for each corridor would be promoted through the proposed PES scheme (see Annex4A) whereby: (i) short-term payments using GEF resources would support SPS such as pastures with low and high tree density, wind barriers, or live fences, which offer clear economic returns in the mid to long-term but require compensation for their initial investment costs. Farmers that adopt strict conservation land uses (e.g., preserving natural ecosystems or establishing new conservation areas) would also receive short-term PES during project life; (ii) long-term payments from water and other ES users, including the National REDD strategy under formulation, would be sought to induce the adoption of highly attractive land uses from a biodiversity and anti-erosion perspective, but less profitable for farmers given the opportunity cost of land. The proposed project would support efforts to establish long-term funding sources in at least two cattle production areas, facilitating buyer-seller participation, fund administration, and monitoring ES generation and contract compliance. The main activities under this component include:
17. **Subcomponent 2.1. Adjustment and implementation of a PES mechanism offering short-term payments to SPS.** Based on the lessons learned from the RSPS Project, a short-term PES mechanism has been designed with the following characteristics: (a) 9 land use categories would be monitored in participating farms; (b) only those SPS that are privately profitable in the mid to long-term would be considered for payments—as their adoption has proven to continue once payments cease; (c) strict conservation land uses on farms intersecting a connectivity corridor³⁴ would also be eligible for short-term payments; (d) highly profitable SPS would be excluded from PES, unless they include the use of native trees; (e) eligible land uses would earn additional ES points if they include native trees or are located within connectivity corridors (see Annex 4A); and (f) a baseline payment for preserved forests would recognize previous conservation efforts by participating farmers, and subsequent payments would be made each year if they are preserved. Annual, ex-post payments would be made upon verification of on-farm land use changes. CIPAV would verify on-site land use changes and certify compliance with PES contracts enabling the FPAA to make individual payments. CIPAV and TNC, with FPAA support as required, would jointly monitor ES generation.
18. Key activities under this subcomponent would include: (i) outreach activities to motivate farmer participation; (ii) farm-level analyses in each project area to validate/adjust the connectivity corridors designed at the ecoregion and landscape levels, requiring the generation of land use maps at the farm level; (iii) baseline farm assessments and participatory land use planning leading to agreements under PES contracts, including the identification of indicators for performance-based PES payments; and establish ES/biodiversity/productivity indicators to monitor in each farm with active farmer participation (iv) production of the necessary, user-friendly documentation (PES operation manuals, guidelines for ES monitoring, among others); (v) TA provision for successful land use change adoption; (vi) verification of land use changes enabling payments to farmers; (vii) payments for ES related to land use changes; (viii) agreements with regional and local stakeholders interested in co-financing efforts; and (ix) monitoring ES provision (water, biodiversity, carbon sequestration, and land restoration), along with other applied evaluation of environmental impacts, particularly SPS's contributions to climate change adaptation and mitigation. CIPAV and TNC, with CATIE support for CC, would jointly monitor ES generation.

³⁴ Although local ES users would be sought to assume these payments by project completion, the GEF regional pilot project has demonstrated that, in many cases, farmers maintain these conservation land uses despite not being paid for them anymore or not being profitable in terms of cattle ranching, because their attitudes toward sustainable natural resource management have changed and conservation land uses are perceived as appreciating the value of their land.

19. **Subcomponent 2.2. Design and implementation of local PES mechanisms financed by service users that would offer long-term payments.** In at least two cattle production areas, the project would develop local PES mechanisms financed by service users that would offer long-term payments for land uses that are important for ES provision, but are unattractive to farmers such as establishing riparian corridors and native forests. Potential service users would include public/private water utilities, hydroelectric power stations, and/or irrigation districts which require adequately conserved areas for water catchments and would benefit from improved water quality and regulation (see Annex 4A).
20. Key activities under this subcomponent would include: (i) identification of and negotiations with potential service users; (ii) outreach activities to motivate farmer participation, particularly those farms previously identified as having a high potential to offer ES; (iii) baseline farm assessments and participatory land use planning leading to agreements under PES contracts initially between the FPAA and farmers, and eventually by the ES users and farmers directly; (iv) production of the necessary, user-friendly documentation (PES operation manuals with model contracts, guidelines for ES monitoring, among others); (v) TA provision to farmers for successful land use change adoption; (vi) monitoring and certification of land use changes enabling payments to farmers, channeled through the FPAA; and (vii) monitoring ES provision (water, biodiversity, carbon sequestration, and land restoration), along with other applied research regarding environmental impacts.

Component 3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching
(Total cost US\$1.5M; GEF financing \$0.8M)

21. The aim of this component is to establish key alliances with project partners and stakeholders through a communications strategy that ensures project instruments and results are disseminated from the start. In addition, efforts would focus on establishing a monitoring and evaluation system that provides timely and relevant information contributing to the future broader adoption of sustainable cattle ranching production systems in Colombia. Producer associations would also be strengthened to apply and benefit from project instruments. The main activities under this component would include:
22. **Subcomponent 3.1. Monitoring and evaluation of project activities.** This subcomponent would establish M&E mechanisms to measure the project's progress towards achieving its development objectives, based on the results-framework included in Annex 3. Key activities include data processing and analysis provided by baseline assessments and periodic M&E reports generated at the farm and landscape levels, to be included in the project's mid-term and final impact evaluation.
23. **Subcomponent 3.2. Results dissemination to key stakeholders.** Under this subcomponent, the proposed project would design and implement outreach activities to inform and encourage stakeholder participation from the project start, targeted at different audiences (TA providers, farmers, ES users, national policy-makers, and regional/local authorities). This communications strategy would systematically compile lessons learned during the implementation of the proposed strategy for a broader adoption of SPS, and disseminate them for adoption by key national, regional, and local partners, particularly policy-makers in the planning, environmental, rural and financing sectors. In the framework of the project's Public Policy Committee, foster an enabling institutional environment with the National Planning Department and the Ministries of Environment and Agriculture.
24. **Subcomponent 3.3. Strengthening producer associations.** Individual membership to producer associations or cooperatives would be promoted, particularly to stimulate collective approaches to accessing and implementing project instruments (credit lines, PES payments if necessary, etc.), through a set of capacity-building activities.

Component 4. Project management (Total cost US\$3.1M; GEF financing \$0.7M)

25. The aim of this component is to improve institutional capacity to develop the project and enable the project's financial, technical, legal, and administrative execution. The main activities under this component would include:
26. **Subcomponent 4.1. Coordinating intra-and inter-institutional efforts for effective project management.** A Steering Committee comprised of the project coordinators in FEDEGAN, CIPAV, FPAA, and TNC would be set up to approve Annual Operating Plans, review project progress based on M&E, make collective decisions on key technical and administrative issues for implementation, and provide information to the Public Policy Committee (see Annex 6). Activities under this subcomponent would focus on supporting the adequate operation of these oversight and coordination mechanisms, as well as their efficiency, and would support overall project execution by FEDEGAN.
27. **Subcomponent 4.2. Monitoring and evaluation of project management.** This subcomponent would establish M&E mechanisms to measure the project's administrative activities at the national and regional levels, including the consolidation of oversight and coordination mechanisms described above.

Annex 4A – Payments for Environmental Services Scheme

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

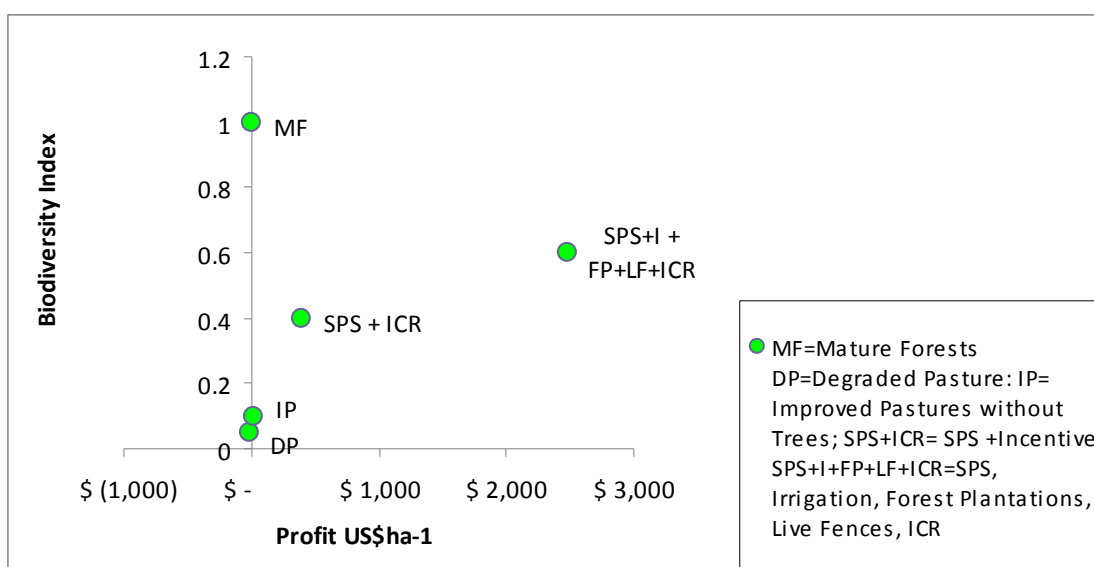
Overview

1. The RSPS Project implemented in Colombia, Costa Rica, and Nicaragua between 2002 and 2008 demonstrated that not all silvopastoral practices have the same profitability for farmers or contribute equally to the provision of environmental services. Three land use/technology categories were identified upon project completion:
 - (i) Highly profitable³⁵ SPS, such as mixed fodder banks, improved pastures with high density *Leucaena*, forest plantations with cattle browsing and irrigation, among others, which provide some environmental services in terms of biodiversity conservation and carbon sequestration. However, certain practices (e.g., intensive *Leucaena*) are not necessarily very beneficial to biodiversity unless established in association with multi-species live fences.
 - (ii) SPS with a moderate short-term impact on farm productivity, but offering clear economic returns in the mid to long-term and greater ES contributions once established. These include live fences, wind barriers, or trees in pastures with diversified commercial value.
 - (iii) Land use changes representing an opportunity cost for farmers in the short-term, such as withdrawing farm land from cattle ranching production for the provision of high value ES (e.g., riparian forests, secondary forest recovery in degraded pastures, conservation of mature forests and private wetlands, among others).
2. The RSPS Project also measured and demonstrated the effects of using PES to induce farmers to adopt SPS-related land use changes providing valuable ES. Farmers responded positively to PES and technical assistance offered under the project for the adoption of such changes in their production systems, particularly by implementing natural pastures with trees, mixed fodder banks, and live fences. At the Colombia site, PES recipients changed land use on 48 percent of their farm area, compared to less than 13 percent for members of a control group. However, since many of the benefits that SPS provide, such as biodiversity conservation, carbon sequestration, and water services are externalities from the perspective of individual landholders, incentives are required to promote their adoption.
3. Based on the lessons learned from the RSPS Project, the proposed project would apply a mix of instruments in each area to promote environment-friendly SPS in participating cattle ranching farms, as follows:
 - (i) Facilitating farmer access to available financial resources to induce the adoption of highly profitable SPS, namely attractively-priced loans from FINAGRO for the adoption of intensive SPS. As with all three categories of land use changes, the successful adoption of highly profitable SPS would rely on farmer training and the provision of technical assistance;
 - (ii) Offering short-term PES using GEF and FPAA resources to catalyze the adoption of SPS that provide greater ES and are privately profitable once established, but have fixed costs that prevent farmers from adopting them. Based on results from the RSPS Project, these land uses are expected to be maintained by farmers once short-run payments cease given their contributions to farm profitability.

³⁵ Relative profitability compared to alternative farm land uses.

- (iii) Helping establish long-term payments for SPS that provide high value ES for specific users and positive externalities for society in general, but represent an opportunity cost for farmers. Short-term payments using GEF and FPAA resources would be used to induce their adoption and persuade pre-identified ES users of the effectiveness of long-term funding for sustained SPS implementation that guarantees ES provision. The proposed project would facilitate buyer-seller participation and fund administration, and monitor ES generation and contract compliance for water and potentially carbon services. Payment levels under both schemes need to be competitively determined/attractive to ‘tip the balance’ in favor of their adoption by farmers.
- (iv) Complementary market-based activities such as the promotion of agroecotourism in participating farms and an SPS quality seal assessment would be supported to generate additional funding flows for the adoption of land uses under PES schemes.

Figure 2: Trade-off per Land use type



Short-term PES

4. Based on the ES index applied under the RSPS Project, an adjusted land use ES index has been designed with the following characteristics:
 - (i) 9 land use categories would be monitored in participating farms³⁶.
 - (ii) Each land use category has been assigned an ES score according to the biodiversity service it is estimated to provide³⁷. Scores range from 0 (no ES generated) to 100 (maximum ES provision) and have been set based on M&E results from the RSPS Project.
 - (iii) Additional ES points would be awarded to eligible land uses if they: (i) are located within connectivity corridors designed in each project area³⁸, or (ii) incorporate native trees or shrubs (including palms

³⁶ The 28 SPS-related land uses monitored under the GEF *Regional Silvopastoral Project* have been reduced to simply M&E efforts under the proposed project and grouped according to their levels of ES provision. Definitions of each land use would be included in the project Operational Manual.

³⁷ This land use ES index to differentiate payment levels proved to be a tool that farmers could easily understand and use under the GEF *Regional Silvopastoral Project*.

³⁸ Corridors of tree or shrub-like vegetation connecting fragments of strategic natural ecosystems through riparian or other landscape elements. Their design includes a core strip for strict conservation purposes and buffer strips for secondary succession or SPS (live fences, wind barriers, intensive SPS, or low density trees). Final land uses to be adopted in the core

and cacti)³⁹, many of which of global importance for conservation, to account for enhanced contribution to biodiversity conservation.

- (iv) To support land restoration, agricultural and livestock lands with over 80 percent vegetative cover in pastures, fodder, or creeping vegetation have been included in the index as they help avoid water and wind erosion and mitigate the effect of compacting from animal stamping and extreme temperatures. These land uses can act as a transition step towards SPS adoption.

Table 5. Land use ES Index under Short-term PES

No	Land use	ES Score*	Additional ES points	
			Location in connectivity corridors	Use of native species**
1	Mature forests or private wetlands	100	0	0
2	Secondary forests	95	0	0
3	Pastures with high tree density and managed ecological succession	70	10	10
4	Agroforestry crops (at least 2 strata)	50	20	10
5	Live fences and wind barriers	10	5	5
6	Agricultural and livestock lands with over 80% vegetative cover	10	0	10
7	iSPS ¹ (including MFB ² w/ and w/o woody species)	0	0	10
8	Other agricultural and livestock practices (temporary crops, forest plantations)	0	0	10
9	Degraded soils in degraded pastures	0	0	0

* Each ES point above baseline is worth US\$0.75

**Including several globally important species according to project reference lists (TNC-CIPAV).

1 iSPS: Intensive Silvopastoral Systems.

2 MFB: Mixed Fodder Banks.

iSPS and MFB are excluded from PES as they are eligible for aid under project component 1.

5. A short-term PES mechanism using the ES index described above has been designed as follows:

- (i) Eligible cattle ranching farms in the five project areas can qualify for short-term payments if they voluntarily enter into PES contracts that reflect land use planning agreements reached with project technicians from FEDEGAN, CIPAV, and TNC;
- (ii) Farm assessments prior to PES contract signature would determine baseline values for farm area (ha) under different land uses included in the ES index (including if native trees are present or farm is located within connectivity corridors), and identify indicators for performance-based PES payments
- (iii) A single ES score would be tabulated per farm based on total ha per land use in each farm to avoid displacement of environmentally-detrimental land uses from one plot within the farm to another.
- (iv) A baseline payment for the environmental quality of current vegetation in participating farms, as measured through the baseline ES score, would be made to: (i) avoid perverse incentives for deforestation and recognize conservation efforts; and (ii) create farmer confidence in project instruments, as well as partially finance initial investments for SPS adoption.
- (v) Mature forests would be awarded a baseline payment and subsequent payments each year if preserved.

and buffer strips would depend on site conditions and land use planning agreements reached with individual participating farmers.

³⁹ Reference lists of key native trees and shrubs have been developed for each project region during preparation. Additional ES points are awarded to stimulate their use since native species are frequently less profitable for farmers than exotic species given their slower growth rates and higher costs. As they are less known and have fewer technological developments, the commercial value of native species is often low, limiting access to credit for their implementation.

- (vi) Desired SPS-related land use changes adopted by farmers (as established in the participatory land use planning agreements included in each PES contract) and measured against baseline values would serve to determine incremental ha of land uses adopted by each participating farm per year and determine payment levels.
- (vii) Payment levels⁴⁰ are set in US dollars:
 - a. US\$0.23 are awarded per baseline ha in farms at project start
 - b. US\$0.18 are awarded per baseline ha of mature forests conserved annually
 - c. US\$0.75 are awarded per incremental ha adopted by farmers annually
 - d. According to the ES scores assigned to each land use in the ES index, values of incremental ha per land use would be: (i) US\$75 per ha of Mature forests or wetlands; (ii) US\$71.25 per ha of secondary forests; (iii) US\$52.5 per ha of pastures with trees and managed ecological succession; (iv) US\$37.5 per ha of agroforestry crops; and (v) US\$7.5 per ha of live fence/wind barriers or Agricultural and livestock lands with over 80 percent of vegetative cover.
 - e. For example, if a farmer converts a 10 ha plot of degraded pasture in his/her farm (ES score 0) to a pasture with trees (ES score 70), at US\$0.75 recognized per incremental ha, he/she would be entitled to a total payment of $US\$0.75 \times 70 = US\52.5 (52.5 per ha)
- (viii) Annual, ex-post payments would be made upon verification of land use changes and computation of ES score per farm.
- (ix) As in the RSPS Project, a ceiling of US\$6,500 has been set for the total amount of PES payments an individual farm can receive, as a way to ensure higher levels of participation⁴¹.

Long-term PES

- 6. Unlike Costa Rica or Mexico where PES are publicly funded in the framework of a national policy, PES mechanisms in Colombia to date have been private or community-led initiatives without long-term public funding, in the absence of a legal framework and a political will⁴².
- 7. A National PES strategy is under formulation and would be adopted by the MAVDT to define the methodologies and implementation arrangements (legal and operative) under which PES schemes shall be applied, monitored, and evaluated in Colombia, with active CAR participation. The proposed project would help test specific schemes that would provide key input to the National PES Strategy.
- 8. A National REDD strategy is also under formulation by the MAVDT to benefit from resources available from the Bank-administered Forest Carbon Partnership Facility and future funding for the reduction of GHG emissions from avoided deforestation and forest degradation. The proposed project also seeks to demonstrate the contribution of SPS to climate change mitigation and adaptation and enable their inclusion and funding under the National REDD strategy.

Payments for Water services

- 9. Payments for water services have the greatest potential for long-term funding as ES users are easily identifiable and obtain well-defined services. Most PES schemes in Latin America focus on water services.
- 10. Since 1992, Colombia pioneered payments for water services from irrigation and aqueduct users even before the 'PES' label was developed, and diverse mechanisms continue operating to date:

⁴⁰ Payment levels could be adjusted after a region by region opportunity cost analysis, that should be finished during the first year of project execution.

⁴¹ Having a ceiling can, however, impede the generation of desired levels of ES. For example, if a sizeable part of a connectivity corridor is located in one large farm, the ceiling would limit the land use change needed to effectively impact ES provision.

⁴² The Forest Conservation Incentive known as CIF was created in 1994 as a national instrument to promote long-term forest conservation generating positive environmental externalities. To date it has not been regulated or employed (Blanco, 2006).

- Agricultural associations in Valle del Cauca began investing in upstream conservation actions in the watersheds under their administration to ensure adequate flows throughout the year and prevent excess sediments during the rainy seasons. Currently the Association of Sugar Cane (ASOCAÑA) is working with TNC to consolidate a PES fund that would potentially cofinance long-term activities in the coffee-growing project area.
 - Municipal water utilities in Santander and the Procuencia organization in Manizales have invested user fees to increase vegetation cover upstream in supplier watersheds.
 - Five rural water utilities near Villa de Leyva (Boyaca) continue to pay for conservation efforts in the upper basin of the Chaina River piloted under the GEF/IBRD *Andean Region Conservation and Sustainable Use of Biodiversity Project*.
 - Bogota’s municipal water utility plans to consolidate a fund to establish and maintain a conservation belt comprising forests and moorlands.
 - Other community-based initiatives, such as those promoted under the GEF/IBRD *Naya Biological Corridor in the Munchique-Pinche Sector Project* with the Nasa indigenous community in the *La Salvajina Dam*, have failed to secure payments from the hydroelectrical sector.
11. Legal barriers for the use of public funds in private lands still exist and would be overcome through the adoption of the National PES Strategy, but the results of the RSPS Project have demonstrated the positive effects of SPS on water quality (see Annex 9). These would be further monitored and measured to secure long-term funds.
12. Three areas have been preliminarily selected for project intervention given the opportunities identified for the establishment of long-term PES schemes:
- Potential ES buyers (water users) have expressed an interest in maintaining and improving water services and are aware of the role vegetative cover plays in their provision;
 - Potential ES providers would be upper basin cattle ranching farms;
 - Historical hydrologic information is available to run correlation analyses of past vegetative cover and ES provision;
 - Public authorities and private sector agents are interested in the establishment of a PES scheme
 - Land uses eligible for water payments would be promoted in several high mountain areas fostering high levels of biodiversity, whose conservation would therefore be supported
13. The three areas are located in the coffee-growing ecoregion and upper Cauca River region, specifically at: (i) the upper basin of the *Quindío River*, in the municipalities of *Armenia* and *Salento* under the leadership of the CRQ; (ii) the *Tuluá-Morales River* basins in the Central mountain range, Valle del Cauca, where associations of water users for sugar cane irrigation are constituting a PES fund with support from TNC; and (iii) the *Río Frío* watershed pertaining to the *Cartama River* basin in the Western mountain range, southeast of the Antioquia department. Funding sources for long-term payments would come from public, private, or both sources.
14. Table 6 summarizes the potential of these areas for the establishment of long-term PES schemes:

Table 6: Potential for long-term PES schemes in project areas

<i>Area</i>	<i>Water ES</i>	<i>Interested ES buyers</i>
Quindío River	Regional potable water supply	Public water utilities (Armenia and Salento) Regional Environmental Authority (public)
	Hydroelectric power generation (2)	Public energy utility (Medellín)
Río Frío, Antioquia	Municipal water supply (2)	Public water utilities Fruit-cropping company (private)
	Agroindustrial irrigation	Sugar cane agroindustry (private)
Tuluá-Morales Rivers	Municipal water supply (several)	Public water utilities

15. The proposed areas for long-term PES have the following characteristics:

(i) Quindío River (Quindío)

- The Quindío River and its microcatchments supply water to Armenia (capital of the Quindío department) and the municipalities of Salento, Circasia, and Filandia, which total about 280,000 inhabitants (over 60% of the department's population).
- Given demographic and agroindustrial growth in the area, the future supply (flow) in the area is not ensured; during the heaviest rainy seasons, flood waters and sediments affect public and private infrastructure.
- The CRQ and the municipal water utilities have expressed their interest in establishing a PES scheme to guarantee the sustainability of water supply and quality.
- Cattle ranchers in the upper basin have traditionally invested in environmental measures favoring the provision of ES, but have never received a direct compensation for their efforts.

(ii) Río Frío, Cartama River basin (Antioquia)

- The company *Agrícolas Unidas*, a fruit-cropping and sales agroindustry (citrus) is located in the municipality of Támesis, 100 km southwest of Medellín. It was recently awarded a water concession contract by CORANTIOQUIA to develop a hydroelectric power generation project with the company HMV – Engineers.
- *Agrícolas Unidas'* small hydroelectric power station will collect water from the middle basin of Río Frío, at an elevation of 1,380 and 965 m.a.s.l. It will have an installed capacity of nearly 10.5 MW, a design flow of 3.0 m³/s, and a gross head of 415 m.
- The municipalities of La Pintada and Támesis, with almost 20,000 inhabitants in total, depend on the *Río Frío* basin for their water supply. La Pintada's Aqueduct collects water from the middle basin and Támesis' Aqueduct will do so in a few years from the upper basin as its current sources are insufficient to supply its demand.
- The catchment area supplying water to these two aqueducts and future hydroelectric power station depends on the 7,003 ha of small and medium-sized cattle ranching farms located in the municipalities of Támesis and Jericó, with an altitudinal gradient between 1,700 and 2,200 m.a.s.l.
- The Cattle Rancher Association of the north of Caldas and southwest of Antioquia (ASOGANS) gathers 273 member farmers and undertakes trade activities in 11 municipalities of Antioquia and Caldas. The Association is interested in promoting SPS in the region, particularly in the upper *Río Frío* basin where cattle ranchers have low entrepreneurship levels.

(iii) Tuluá – Morales Rivers (Valle del Cauca)

- The Tuluá River supplies potable water to the municipality of Tuluá, with 200,000 inhabitants and an intensive sugarcane cropping area (30,000 ha) requiring continued irrigation.
- The upper basin area (comprising the Tuluá and Morales Rivers) was deforested several decades ago and urgently needs an increase in vegetative cover to reduce sedimentation levels and guarantee water supply in times of drought. The predominant land use in the area is grazing with little observance of Good Cattle Ranching Practices.
- The Association of Sugarcane Croppers (ASOCAÑA), along with TNC and agricultural landowners organized in water-user associations (Fundación Río Tuluá and Morales) are leading the establishment of an investment fund in the upper basin.
- The CVC has entered into agreements with CIPAV and the regional cattle rancher association (COOGANCEVALLE) to promote cattle ranching conversion to SPS and degraded area restoration.

16. A modified ES index would be applied to measure water service provision in these areas. According to the priority needs of each site—whether reducing sedimentation, improving water quality, or combating climatic events such as avalanches or droughts—9 land uses listed below would be monitored in light of

their contribution to desired results. For example, where the main concern is sedimentation, land use categories with a high anti-erosive impact and located near rivers would earn higher scores. Where the main concern is water quality, land use categories employing low levels of agrochemicals or impeding direct cattle access to water bodies would be valued more. Therefore, each long-term PES scheme with water users would employ a different scoring table according to on-site needs and priorities.

17. Table 7 illustrates an ES index employed under the RSPS Project where improving water quality for human consumption was prioritized:

Table 7: ES index for water quality services

<i>No</i>	<i>Land use</i>	<i>ES Score</i>
1	Mature forests	100
2	Secondary forests	100
3	Wetlands and protected water springs	100
4	Agroforestry crops (at least 2 stories/strata)	60
5	Mixed forest plantations (at least 3 species)	50
6	iSPS ¹ (including MFB ² w/ and w/o woody species)	40
7	Pastures with trees and managed ecological succession	40
8	Live fences and wind barriers (km)	40
9	Degraded soils in degraded pastures	0

1 iSPS: Intensive Silvopastoral Systems.

2 MFB: Mixed Fodder Banks.

Payments for carbon services

18. The proposed project is expected to provide enhanced carbon benefits, including for climate change adaptation and the reduction of emissions from deforestation and forest degradation.
19. Two main markets have been identified to promote long-term PES schemes with carbon sequestration users:
- (i) The Clean Development Mechanism under the Kyoto Protocol allows emission-reduction or removal projects in developing countries such as Colombia to earn certified emission reduction credits—equivalent to one ton of CO₂, including for afforestation and reforestation projects. However, strict parameters and rigorous registration and issuance processes have deterred forest projects from entering this market-based instrument (only two projects of this type have been included). In addition, the prescribed term for project presentation under the CDM has expired. Therefore, although this market option has been discarded under the proposed project, partners would closely monitor progress under UNFCCC negotiations on further commitments for Annex 1 countries, including REDD mitigation options.
 - (ii) Voluntary carbon markets based on private and public initiatives to promote emission-reduction or removal projects outside of the Kyoto Protocol commitments would be explored. Carbon footprint analyses of cattle ranching activities undertaken by CATIE indicate that SPS fix significant amounts of carbon in the soil and in the standing tree biomass, as well as contribute to methane emissions reduction through improved quality of animal fodder and to reducing nitrous oxide emissions given less demand for nitrogen fertilizers. In addition, the results of the RSPS Project showed that SPS were associated with a significant reduction in the use of fire as a pasture management tool, all of which could leverage additional resources for long-term PES schemes from carbon sequestration users.
20. Preliminary evidence also indicates that SPS could act as an adaptation measure to climate change. SPS incorporate tree species that are drought tolerant and retain their foliage in the dry season, thus providing

large amounts of high quality fodder that results in more stable milk and beef production, maintenance of the animals' body conditions and more secure assets for farmers. Under extreme climate change conditions that would affect temperatures and rainy seasons, cattle ranching in pastures without trees would be more vulnerable than in those with trees. contribute to CC adaptation including to combat the loss, erosion, and desertification of soils

21. Table 8 illustrates an ES index for carbon sequestration benefits, based on the experience of the RSPS Project. This carbon ES index would be applied in areas with agroclimatic conditions and species similar to those in the *La Vieja* River basin. SPS contributions to CC mitigation and adaptation would be closely monitored through CATIE's methodology so as to determine SPS carbon benefits in other conditions and support long-term PES fundraising.

Table 8. ES index for carbon sequestration services

<i>No</i>	<i>Land use</i>	<i>ES Score</i>
1	Mature forests	100
2	Secondary forests	80
3	Pastures with high tree density and managed ecological succession	70
4	Agroforestry crops (at least 2 stories/strata)	70
5	iSPS ¹ w/ woody species (including MFB ²)	60
6	Live fences and wind barriers (km)	50
7	Forest plantations with grazing	50
8	Agricultural and livestock lands with over 80% vegetative cover	30
9	Degraded soils in degraded pastures	0

1 iSPS: Intensive Silvopastoral Systems.

2 MFB: Mixed Fodder Banks.

Annex 5: Project Costs
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Project Cost By Component and/or Activity	Local (US\$'000) *	Foreign (US\$'000) **	Total (US\$'000)
1. Improving productivity in participating cattle ranching farms	29,288	1,676	30,964
1.1. SPS training to national, regional, and local TA providers	29	126	155
1.2. Beneficiary selection and baseline assessments	52	226	278
1.3. TA to farmers and implementation of SPS in the different regions	25,063	968	26,031
1.4. Improving access to financial resources for SPS adoption	463	0	463
1.5. Assessing and adjusting sector technologies applied in each project area	685	189	874
1.6. Supporting market-based instruments to secure long-term funding	68	0	68
Component 1-Physical Contingencies	2,929	168	3,096
2. Increasing connectivity and reducing land degradation in participating cattle ranching farms	2,605	3,815	6,420
2.1. Adjustment and implementation of a PES mechanism offering short-term payments to SPS	1,512	3,263	4,775
2.2. Design and implementation of local PES mechanisms financed by service users that would offer long-term payments	833	43	876
2.3. Promoting the use of focal species in SPS	0	128	128
Component 2- Physical Contingencies	261	382	643
3. Institutional strengthening, dissemination and M&E efforts	663	824	1,487
3.1. M&E of project activities	274	486	760
3.2. Results dissemination to key stakeholders	284	256	540
3.3. Strengthening producer associations	40	0	40
Component 3-Physical Contingencies	66	82	149
4. Project management	2,389	682	3,071
Component 4-Physical Contingencies	239	68	307
Total Baseline Cost	31,451	6,297	37,748
Total Physical Contingencies	3,495	701	4,195
Price Contingencies***	0	0	0
Total Project Costs	34,946	6,998	41,943

* Includes all cofinancing, including TNC

** GEF resources – the three activities with a zero would only be financed by project partners, namely FEDEGAN.

*** A 5% inflation rate has been applied to relevant capital and recurrent cost items - included in Activity totals

Annex 6: Implementation Arrangements

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Overview of institutions and agreements

1. The project's main partnership for implementation and cofinancing purposes is an alliance between FEDEGAN, CIPAV, FPAA, and TNC. This partnership arrangement dates back to 2005 when progress under the RSPS Project encouraged FEDEGAN and CIPAV to seek a scaling-up operation that coincided with the subsector's interest in promoting a sustainable production culture. FPAA and TNC joined the initiative given their interest in stimulating private sector participation and investments in biodiversity conservation and sustainable natural resource use. The opportunity to work directly with the cattle ranching association, traditionally unaware of the environmental and social considerations promoted by the project, was capitalized by all agencies involved. This project partnership has worked effectively in the preparation and approval of the proposed project.
2. An institutional assessment was conducted to evaluate the strengths and weaknesses of each agency, along with an assessment of the reputational risk involved in partnering with FEDEGAN⁴³ (see Annex 6A). Recommendations from both assessments have been taken into account to determine these implementation arrangements, which positively valued the proposed collective management to further enhance the message of the subsector's transformation. The general recommendation is to maintain the four agencies as implementation partners, with clearly assigned responsibilities, to ensure project success.
3. Given FEDEGAN's key role in ensuring project impact, both through its leadership in favor of the subsector's development and its interest in the subsector's transformation towards sustainable production models, as well as its ample experience in the administration of public funds and project execution by delegation of the GoC⁴⁴, FEDEGAN would be the GEF grant recipient and Lead Executing Agency.
4. A **Grant Agreement** would be signed between the World Bank, as GEF Implementing Agency, and FEDEGAN, as Lead Executing Agency.
5. **Subsidiary agreements** would be drafted prior to negotiations and signed between FEDEGAN (hereinafter 'Lead Executing Agency') and CIPAV, FPAA, and TNC (hereinafter 'Core Partner Agencies') before grant effectiveness. The subsidiary agreements would detail the specific functions and amount of resources each core partner agency would execute in accordance with its area of expertise, and establish the coordination and implementation procedures, as well as the legally binding commitments on cofinancing contribution. Each core partner agency would designate a project coordinator responsible for the implementation of activities foreseen in each subsidiary agreement signed with FEDEGAN, and act as the agencies' representative for all project matters.

⁴³ Reputational risk assessment concluded that there is a moderate risk of FEDEGAN, in its capacity as the cattle ranchers' professional association in Colombia, to be perceived as directly involved with illegal armed groups. However, the assessment highlights FEDEGAN's good standing with the GoC and full support from State entities involved in the sector, as well as its good reputation in several regions selected for project intervention.

⁴⁴ Pursuant to Laws 89 and 101 of 1993, FEDEGAN has been entrusted by the MADR with the administration of the National Cattle Fund and the Stabilization Fund for the promotion of beef, dairy, and sub-product exports, both of which collect non-fiscal taxes from producers to reinvest in the subsector's development. In 2008, resources under the two funds totaled over US\$30M nominal value. In addition, FEDEGAN has entered into cooperation agreements with the Colombian Institute for Agriculture and Livestock (ICA) to support the national foot-and-mouth disease eradication campaign, and with the National Learning Service (SENA) for the specialized training of cattle ranching enterprises, executing nearly US\$3.2M of GoC resources in 2008. Under the WB-financed project for Agricultural Transition in Colombia (a US\$30M loan to the MADR), FEDEGAN is also leading country efforts in sanitary and phytosanitary systems for the subsector, and is actively participating in the construction of a Prospective Research and Development Sector Agenda.

Implementation arrangements

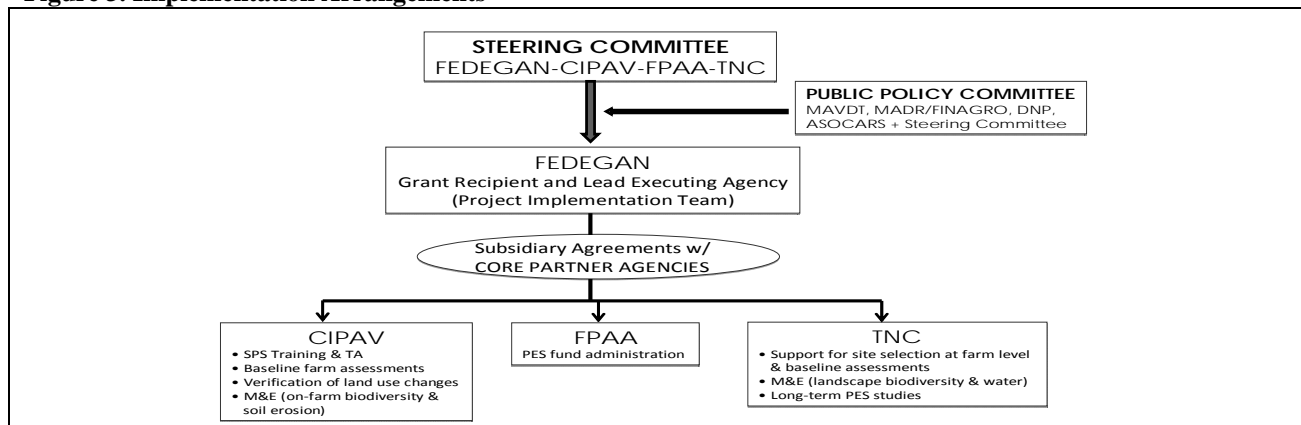
6. **Lead Executing Agency.** FEDEGAN is a non-profit trade association founded in 1963 and subject to the Colombian private law. It brings together regional and local trade associations and other entities involved in cattle ranching activities. As Lead Executing Agency, FEDEGAN would be responsible for project administration, including: (a) activity supervision; (b) procurement of goods and services for project execution, including those directly undertaken by Core partner agencies in accordance with the approved Annual Operative Plans (POAs); (c) the project's financial management and accounting; and (d) technical and administrative monitoring and information consolidation and reporting.
7. FEDEGAN would manage project implementation at the local level through its Regional Development Units and technical assistance centers, and at the national level it would foster an enabling environment on the necessary institutional conditions for the broader adoption of environment-friendly SPS in Colombian cattle ranching, particularly by small and medium-scale producers. FEDEGAN would also administer the provision of technical assistance to participating farmers and training to TA providers, as well as lead the project's communications strategy.
8. **Core partner agencies.** CIPAV, FPAA, and TNC would enter into subsidiary agreements with FEDEGAN to perform specific functions for project implementation, according to their area of expertise as follows:
 - **CIPAV** is an NGO founded in 1992 with a mandate to contribute to sustainable rural development in Colombia through research, training, and communication related to production systems that are appropriate for tropical agro-ecosystems. CIPAV implemented the RSPS Project in Colombia and has developed strong technical capacity to design and implement SPS. CIPAV would have a technical role in project implementation, which includes: (i) training FEDEGAN's technicians and other TA providers in project areas in SPS implementation; (ii) undertaking baseline farm assessments jointly with TNC; (iii) supporting PES negotiations and contracts to be signed by FPAA as the PES special account administrator; (iv) supporting TA provision for SPS adoption to participating farmers; (v) helping set up an M&E system to track generation of ES and contract compliance, including a protocol to monitor ES provision at the farm level; (vi) verifying on-site land use changes and certifying PES contract compliance; and (vii) leading applied research and studies.
 - The **FPAA** is a non-profit, public service institution founded in 2000 under the US-Colombia bilateral agreement for the *Enterprise for the Americas Initiative* (EAI). The FPAA administers resources from conditional, official debt relief to support child survival and environmental programs, currently from the EAI and the Tropical Forest Conservation Act (TFCA) accounts. The FPAA would: (i) administer a special account to fund PES subprojects under component 2, constituted with GEF resources and joint cofinancing by the FPAA and eventually ES users; and (ii) support the administration of PES contracts negotiated on-site by CIPAV and TNC by making direct payments to farmers, producing necessary documentation, and jointly undertaking negotiations with local ES users under long-term PES schemes.
 - **TNC** is an international NGO founded in 1951 with a mission to preserve the plants, animals, and natural communities that represent the diversity of life on Earth, by protecting the lands and waters they need to survive. TNC would: (i) continue to provide key technical assistance for specific site selection and help validate and adjust, at the farm level, the connectivity corridors designed at the ecoregion and landscape levels (see Annex 10B); (ii) support CIPAV during baseline farm assessments under components 1 and 2 and PES contract negotiations; (iii) help design and implement the M&E system, focusing on biodiversity-related effects at the landscape and ecoregion levels; and (iv) undertake water quality studies to support negotiations with local ES users under long term PES schemes..

9. **Project Operational Manual.** An OM would guide overall project implementation and include rules and procedures for administration, including: (i) performance indicators to be tracked through the administrative M&E system, with standardized report formats to be used for their compilation; (ii) procurement procedures and formats; (iii) financial management procedures, including accounting, auditing, internal control, and reporting; (iv) safeguards procedures; and (v) a detailed description of PES scheme operation, beneficiary selection criteria, among others. A draft OM would be reviewed by the Bank prior to negotiations

10. A **Steering Committee** comprised of the project coordinators in FEDEGAN and Core partner agencies, or their representatives, would meet once each quarter and in extraordinary circumstances if required, in order to: (a) approve POAs prepared by FEDEGAN with core partner agencies' support for submission to WB; (b) review project progress based on M&E results; (c) make collective decisions on key technical and administrative issues for project implementation, including beneficiary selection; and (d) advise Public Policy Committee actions. FINAGRO and other stakeholder representatives would be invited to participate, within the framework of existing or future agreements with FEDEGAN⁴⁵. Decision-making responsibilities within the project's Steering Committee would be assigned in the Operational Manual.

11. A **Public Policy Committee** comprised of representatives of the MAVDT, the MADR/FINAGRO, the DNP, and the Association of CARs (ASOCARS) would advise the overall implementation of the proposed project and provide guidance on its scope. The Committee would meet twice a year with the Steering Committee, and in extraordinary circumstances if required, to: (a) advise project performance based on progress reports prepared by the lead Executing Agency with core partner agencies' support; and (b) suggest adjustments based on M&E results to ensure that the proposed strategy for the broader adoption of environment-friendly cattle ranching production systems in Colombia is validated and adjusted under the project, for subsequent up-scaling. Representatives of local participants and producer associations would be invited to the Public Policy Committee to assess project progress, discuss concerns, and suggest adjustments to the project's Steering Committee. Representatives of regional environmental and local planning authorities, and ES users involved in the PES mechanisms would also be invited to participate in the Public Policy Committee.

Figure 3. Implementation Arrangements



12. **Project coordination.** The Project Implementation Team (PIT) would be placed within FEDEGAN and staffed with: (i) a project coordinator; (ii) one technical and one administrative coordinator; (iii) a procurement officer; (iv) an accountant; (v) an administrative assistant; and (vi) a communications

⁴⁵ FEDEGAN and FINAGRO have entered into a cooperation agreement setting up credit lines for small and medium-scale farmers for productive innovation and improved productivity.

coordinator, all operating under terms of reference satisfactory to the Bank, and selected in accordance with competitive and transparent procedures satisfactory to the Bank, as described in the Operational Manual.

13. At the regional level, FEDEGAN's Regional Development Units would be permanently staffed with one project coordinator per region and at least one administrative assistant, and would be responsible for: (i) coordinating activity implementation under project components; (ii) convening regional/local partners, and leading negotiations with local stakeholders for enhanced participation; and (iii) consolidating information on project status in each area through standardized report formats to be sent to the PIT on a periodic basis.
14. **National, regional and local allies.** The institutional assessment identified a number of key regional and local partners that the project can associate with in each region to maximize its positive impacts. Therefore, it is foreseen that FEDEGAN's PIT could enter into MOU-type agreements with these stakeholders such as regional environmental authorities, governors and mayors (interested in providing co-financing for PES and/or SPS implementation), local planning councils, universities (to ensure the replicability of capacity-building efforts), and other local NGOs working on similar activities for sustainable rural development. GEF funds would not be transferred to such stakeholders as a result of these agreements.
15. Additional national partners have also been identified to scale up project impacts. These include agricultural research and development institutes such as CORPOICA and INCODER, the National Learning Service (SENA), AGROECOTUR and other NGOs supporting agro/ecotourism in rural farms.

Capacity constraints to be addressed

16. Despite FEDEGAN's capacity to efficiently administer funds (over US\$30M nominal value under the National Cattle Fund and the Stabilization Fund in 2008), as recognized by the Colombian General Comptroller's Office, FEDEGAN has no prior experience in Bank fiduciary procedures. In addition, FEDEGAN's regional development units, which would play a key role in project execution by coordinating on-site activities, have been created recently. Adequately staffing and training personnel, both at the central and the regional levels will be fundamental to ensure project success. Activities under component 4 will initially focus on identifying up-front training needs in FEDEGAN, and designing and implementing tailor-made capacity-building activities.
17. Regional coordination between FEDEGAN, CIPAV, FPAA, and TNC needs to be fully guaranteed to engage farmers in single negotiations with permanent agency representatives. To do so, each core partner agency shall furnish the necessary field-based human resources to undertake project activities in each area. A user-friendly communication strategy needs to be ensured, as technical language associated to PES contracts and connectivity corridors could alienate farmers from participating.
18. FINAGRO and its operators have limited capacity to evaluate credit applications for SPS implementation, in addition to long processing times to study credit applications and disburse ICR subsidies. These constraints will have to be addressed to keep participating farmers motivated. In the framework of the project's Public Policy Committee, FEDEGAN would discuss with the MADR-FINAGRO the need to introduce flexible criteria for small-scale farmer participation (e.g., age, land title, and other requirements, or conditions to access ICR subsidies), as well as set up a special team within FINAGRO to focus only on small farmer applications. Training on SPS implementation would be provided to operators/evaluators to enhance their comprehension of SPS-related credit applications. Alternative financial sources for small-scale producers would also be identified and promoted.
19. Bank supervision efforts during PY1 would focus on assessing the effectiveness of implementation arrangements as described, including for beneficiary selection, and devise corrective measures as required.

Annex 6A: Reputational risk assessment

Executive Summary⁴⁶

1. **Objective.** The objective of the assessment was to evaluate the reputational risk for the World Bank in partnering with the Colombian Cattle Ranching Association (FEDEGAN) for the implementation of the project ‘Mainstreaming Biodiversity in Sustainable Cattle Ranching’. The risk assessment sought to answer two questions: (i) is there a risk for the World Bank’s good image in partnering with FEDEGAN for project execution?; and (ii) is it convenient to have FEDEGAN execute project resources? To answer these questions, four issues were analyzed: (i) the perception and possible reality of the linkages between certain cattle ranchers and illegal armed groups; (ii) the involvement of individuals with past or current links to said groups in the project; (iii) the impact of extensive cattle ranching on land occupancy conflicts with peasant and small-scale, rural producers; and (iv) the risk of project resources being captured by elites of cattle ranchers.
2. **Methodology.** The methodology used for information gathering consisted of collecting and analyzing primary and secondary sources of information. Primary sources included semi-structured interviews with an intentional sample of 45 people involved in the sector at the national and regional levels, including in the regions of Boyacá, Meta, and Valle del Cauca, as well as people knowledgeable in the sector but not necessarily involved in it. The list of interviewees was selected using three criteria: (i) knowledge of the sector, (ii) regional representation, and (iii) diverse political views. Secondary sources included documents related to FEDEGAN or the cattle ranchers, resulting from a search of articles on the Internet, in specialized magazines and journals, and in thesis work on the subject of armed conflict, cattle ranchers and FEDEGAN⁴⁷. The questions asked during the semi-structured interviews in order to stimulate conversation on the four issues analyzed are included in Annex 1 of the complete report. Secondary sources were analyzed bearing in mind those same issues. More details on the methodology are provided in the full report.

Analysis and discussion

Perception and reality of the linkages with illegal armed groups⁴⁸

3. The analysis of information collected during the assessment shows the following results. In general, written sources and interviews, including with FEDEGAN’s management, admit that in the past the cattle ranchers had links to illegal armed groups (although no specific timeframe is mentioned by the interviewees, the climax of the confrontation between the insurgency–FARC and ELN–and the paramilitary forces occurred at the beginning to mid nineties). The practice of paying extortion sums known as “vacunas” or the employment of security services financed illegal armed groups. Specific references to FEDEGAN—as the cattle ranchers’ professional association—regarding illegal armed groups are fewer compared to the perceptions of relationships between individual cattle ranchers and illegal armed groups, in particular the paramilitaries. The written literature, however, tends to more frequently point out such a relationship with FEDEGAN than do the interviews with relevant stakeholders.

⁴⁶ Full report by Jairo Arboleda, Social Development and Civil Society consultant, LCSSO, is in project files.

⁴⁷ The search of articles through the Internet took place between December 1 and 14, 2008.

⁴⁸ Pursuant to the International Humanitarian Law, an illegal armed group is defined as a group of individuals acting under an organized command and able to carry out sustained and concerted military operations to exercise control over part of a national territory. The main illegal armed groups in Colombia are the FARC (*Fuerzas Armadas Revolucionarias de Colombia*) established in 1964, the ELN (*Ejército de Liberación Nacional*) established in 1965, and the AUC (*Autodefensas Unidas de Colombia*) established around 1985 and commonly known as “paramilitary groups”. For more information on the conflict with illegal armed groups, see the Country Partnership Strategy for the Republic of Colombia for the Period FY 2008-2011, Report No 42847-CO.

4. However, both secondary source texts and the majority of the interviews indicate that a relationship with illegal armed groups was a generalized phenomenon in Colombia. Indeed, it is pointed out that said phenomenon affected all production associations, their affiliates, and the sales-traders, especially those related to the agricultural and livestock sector. In this regard, some interviewees claim that the bias regarding the cattle ranchers may be unfair and does not recognize that the majority of cattle ranchers faced a hard choice between adjusting to the conditions imposed by the illegal armed groups—both of guerrilla and paramilitary origin—to abandon their land, or possibly die. This view does not deny the fact that certain individual cattle ranchers willingly supported illegal armed groups, that some became leaders of said groups, and that some drug traffickers acquired great extensions of land and several heads of stock as a way to launder assets that had nothing to do with an interest in cattle ranching.

Regional differences in relation to illegal armed groups

5. The assessment found that there are regional differences between the potential project areas that were visited with regards to the impact of illegal armed groups. In the case of cattle ranchers in Boyacá and the north of Valle del Cauca, the influence of these groups, particularly the paramilitaries, was less evident. The two representatives of the Boyacá association interviewed indicate that the cattle ranching area of this *departamento* (with the exception of the Puerto Boyacá municipality) was not greatly affected by the armed conflict with illegal armed groups. The cattle ranching farms in this area are small and cattle ranchers have a small-scale economy. In the north of Valle del Cauca, according to the two representatives of the association and a regional journalist interviewed, the cattle ranchers did not accept the offer of security or an alliance with illegal armed groups, particularly the paramilitaries, in order to preserve the association's good image, which was by then gaining great visibility and respect. On the contrary, the representatives of the cattle ranchers in Meta who were interviewed admitted having been greatly affected by the prevalence of illegal armed groups in the cattle ranching areas. It is well known in Colombia that both insurgent and paramilitary groups have had a substantial presence in this region in the last two decades.
6. Information obtained from the interviews with association affiliates and other sources indicates that adjusting to the demands of illegal armed groups had a justification. The justification was the lack of security guarantees offered by the State and the farmers' need to protect their assets and their lives. This point of view is fairly generalized within the Colombian public opinion, as stated in media accounts, informal conversations at home and amongst friends.
7. Finally, the association's national and regional representatives who were interviewed argue that the situation is presently very different. They claim that most cattle ranchers no longer face a situation similar to that described above given the achievements of the democratic security policy and the presence of the armed forces, which guarantees the security of civilians. These representatives also argue that increased security is demonstrated by the fact that: (i) today cattle ranchers in the areas assessed do not pay extortions (“*vacunas*”) or security costs to illegal armed groups; (ii) many cattle ranchers who had been absent for security reasons have returned to their activities; and (iii) investments in the sector have increased. This view is consistent with the government claims regarding increased security in most of the Colombian territory.

Risks of participation, extensive cattle ranching, and resources capture

8. Issues regarding the potential participation of people linked to illegal armed groups, the impact of extensive cattle ranching, and the capture of project resources by local elites are satisfactorily addressed in the project design. The project has foreseen a solid beneficiary selection process based on the experience of both the RSPS Project and the activities of CIPAV. Targeted eligibility criteria that are: (i) applied in areas selected taking into account public order; (ii) adopted in a collective manner by partner NGOs with ample experience in subproject execution and beneficiary screening; and (iii) closely monitored during

implementation, would help to ensure small and medium-scale farmer participation. Large-scale farmers would also be encouraged to participate when it contributes to the achievement of the project's objective.

9. The project addresses concerns over the impact of extensive cattle ranching on social conflicts with peasant families and groups: its objective is to transform cattle ranching management to become less extensive and more sustainable and profitable. This objective is highly consistent with FEDEGAN's policy expressed in its strategic plan for 2019⁴⁹. The RSPS Project also demonstrated that this approach to sustainable cattle ranching creates additional jobs directly on the farm and indirectly through commercial and other activities. FEDEGAN's management is committed to this approach and to the creation or strengthening of a culture for environmental protection that, with project support, would be increasingly adopted by the association in order to benefit the cattle ranching subsector and the community at large.
10. The capture of project resources by local or national elites does not represent a risk. The selection criteria and collective project management by the partnership of organizations involved make the capture of resources by non-eligible producers (possible having in mind other interests than the project's objectives), highly unlikely. The partner organizations have solid experience in eligible beneficiary selection and resource administration.
11. Finally, the representatives of FEDEGAN indicate that the GoC and the State agencies related to cattle ranching have placed full trust in the association. This trust is expressed in the GoC's legal delegation of authority to FEDEGAN to administer the National Cattle Fund and the Stabilization Fund for the Promotion of Beef, Dairy, and Sub-product exports⁵⁰, which in 2008 managed over US\$30M nominal value. FEDEGAN's performance has been assessed by the General Comptroller's Office as one of the best national entities administering public resources.

Conclusions

12. The following conclusions result from the analysis of the collected information:
 - (i) The risk of FEDEGAN—as the professional cattle rancher association in Colombia—being perceived as directly involved with illegal armed groups is moderate. This comes out clearly from all interviews and the literature review. The association is in good standing with the GoC and has full support from State entities involved in the sector. In addition, the association maintains a good reputation in several of the regions selected for project intervention. FEDEGAN is a key actor to ensure positive project impact, both because of its influence on the cattle ranchers and its interest in the sector's transformation towards sustainable production models. The willingness of the sector, which has historically been unaware of the environmental and social considerations that are promoted in the project, is a unique opportunity for which some have waited a long time and which should be taken advantage of accordingly. Therefore, the assessment concludes that it is a risk worth taking.
 - (ii) The risk of promoting extensive cattle ranching or conflicts with peasant or small-scale, rural producers is non-existent. In fact, the project's objective is to mainstream an intensive approach to cattle ranching that uses resources in a rational and sustainable manner and increases the use of local labor. In turn, the association's strategic plan is aimed at more intensive, environment-friendly, and profitable cattle ranching that would also benefit the larger community.

⁴⁹ Fedegan, Strategic Plan for Colombian Cattle Ranching 2019, Bogotá, 2006, San Martín Obregón y Compañía Limitada.

⁵⁰ The National Cattle Fund is a designated account through which non-fiscal taxes paid by the producers are collected and reinvested in cattle ranching activities for the subsector's modernization, pursuant to Laws 89 and 101 of 1993. FEDEGAN has been entrusted with the administration of this fund under contract 26/2004 signed with the MADR. The Stabilization Fund for the Promotion of Beef, Dairy, and Sub-product Exports is a separate designated account administered FEDEGAN under contract 047/1999 with the MADR, through which national production is regulated, exports are promoted, and producer income is stabilized based on international prices.

(iii) A moderate to non-existent risk exists of including in the project persons with current associations to illegal armed groups, or having project resources captured by national or local elites. As explained in the recommendation section (below), this risk is minimized by the beneficiary selection criteria and collective project management by the well-known and experienced organizations involved.

(iv) There is a substantial reputational risk for the Bank resulting from the perception by certain social groups that “the cattle ranchers” have supported illegal armed groups, in particular the paramilitaries. This perception, predominant among urban groups and organizations defending human and victim rights, is independent from the reality of such relationships in terms of their regional coverage, the reasons behind them, and the degree of support and percentage of farmers involved. This perception is also related to the stereotype of the Colombian cattle rancher as a very wealthy person, owning great extensions of land and thousands of animals, despite the fact that 82 percent of cattle ranchers fall under FEDEGAN’s categorization for medium or small-scale.

13. **Recommendations.** Based on the analysis and the above conclusions, the following recommendations are made:

(i) Continue preparing the project with the partner organizations through a collaborative management structure that mitigates the perception of single-handed project administration and consequently of an exclusive World Bank-FEDEGAN relationship. This would involve completing the project’s design and implementation with support from the organizations involved, defining a partnership arrangement where FEDEGAN, CIPAV, FPAA, and TNC have major roles and make project decisions in a collective manner

(ii) Entrust the execution of project resources to FEDEGAN, which has ample experience in the administration of non-fiscal resources through the State’s delegation, but with the involvement of the collective decision-making mechanism mentioned above. FEDEGAN would enter into the grant agreement with the World Bank, establish subsidiary agreements with the other partner organizations for specific components, and consult with them on key decisions for the project’s successful implementation.

(iii) Adopt measures to mitigate the perception of a reputational risk by some stakeholders. Such measures include a communications strategy that emphasizes the expected sector transformation under the influence of the GEF-financed and Bank-administered project, executed by FEDEGAN in alliance with renowned organizations specializing in such issues; closely monitoring the application of beneficiary selection criteria to rapidly adjust procedures, if required.

(iv) Link the project to the set of activities under the sustainable Peace Pillar through which the World Bank supports the peace agenda in Colombia. This project, given its implementation in certain areas where illegal armed groups were present but are now substantially regained by the armed forces, could be an excellent example of a contribution to the post conflict healing and development process. Although the conflict with illegal armed groups continues in several parts of Colombian territory, the opportunities offered by the project to improve the options of small-scale cattle ranchers in several regions of the country will certainly contribute to improve relations between groups of citizens, and between these citizens and the environment.

Annex 7: Financial Management and Disbursement Arrangements

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

1. **Introduction.** This annex documents the results of the Financial Management Assessment (FMA) of the Colombia: Mainstreaming Sustainable Cattle Ranching Project (the Project), as conducted by Bank staff in accordance with Bank policy.
2. **Executive Summary.** The FMA of FEDEGAN⁵¹ was conducted during pre-appraisal in accordance with OP/BP 10.02 and the Guidelines for the Assessment of Financial Management Arrangements in World Bank Financed Projects. The assessment concluded that the executing entity, FEDEGAN, has sufficient capacity to manage project financial management matters and administer grant funds. FM responsibilities will be under FEDEGAN Finance Office. FEDEGAN's main responsibilities will include the coordination of financial and administrative procedures related to project budgeting, treasury, general accounting, and reporting.
3. The agreed actions pending implementation at pre-appraisal stage are: (i) prepare the draft Financial Management Chapter of the Operational Manual and submit it to the Bank before negotiations; and (ii) prepare the specific terms of reference for the audit and include them into the Operational Manual before negotiations. No legal "non-standard" conditions are deemed necessary on FM matters.
4. The overall FM risk is assessed as moderate before and after mitigation.
5. The inherent FM risk is substantial due to FEDEGAN's lack of experience with World Bank projects. However, a strong system of internal and external controls is in operation at FEDEGAN. The mitigating control factors described in this Annex include: (i) FEDEGAN has ample experience in the administration of public funds and project execution by delegation of the GoC and for this reason, FNG is audited by CGR and entity financial statements' opinion reported by the CGR for 2006 and 2007 was unqualified and its conclusion of the internal control system assessment was that it is effective and the level of risk is low; (ii) funds advanced to partner agencies will be tightly controlled by FEDEGAN's systems; (iii) internal audit office (IAO) will prepare quarterly a technical and financial report of the project and will follow up on the implementation of the recommendations issued by the project's external auditor and the action plans agreed in the World Bank supervision missions; (iv) FEDEGAN will submit bi-annual unaudited project Interim Financial Reports (IFRs) and annual audited financial statements. IFRs will be approved by the Steering Committee before being sent to the Bank; and (v) an independent audit firm selected by FEDEGAN and acceptable to the Bank will conduct the annual audit on Project financial statements and expenditure eligibility. Hence, the residual overall FM risk, i.e. the inherent risk as mitigated by existing controls is moderate.

Description and Assessment of Project FM arrangements

6. **Country issues relevant to the Project.** Since the grant recipient is a nongovernmental organization, country FM systems are not relevant for the purposes of the assessment.
7. **Lead Executing agency.** FEDEGAN is a nongovernmental nonprofit organization that has ample experience in the administration of public funds and project execution by delegation of the GoC⁵².

⁵¹ FEDEGAN refers to FEDEGAN-*Fondo Nacional del Ganado* (FNG) as assessed by FM Specialist. As described earlier, the National Cattle Fund is a special, designated account administered by FEDEGAN with an independent administrative team under the legal representation of FEDEGAN.

⁵² Pursuant to Laws 89 and 101 of 1993, FEDEGAN has been entrusted by the MADR with the administration of the National Cattle Fund and the Stabilization Fund for the Promotion of Beef, Dairy, and Sub-product exports, both of which collect non-

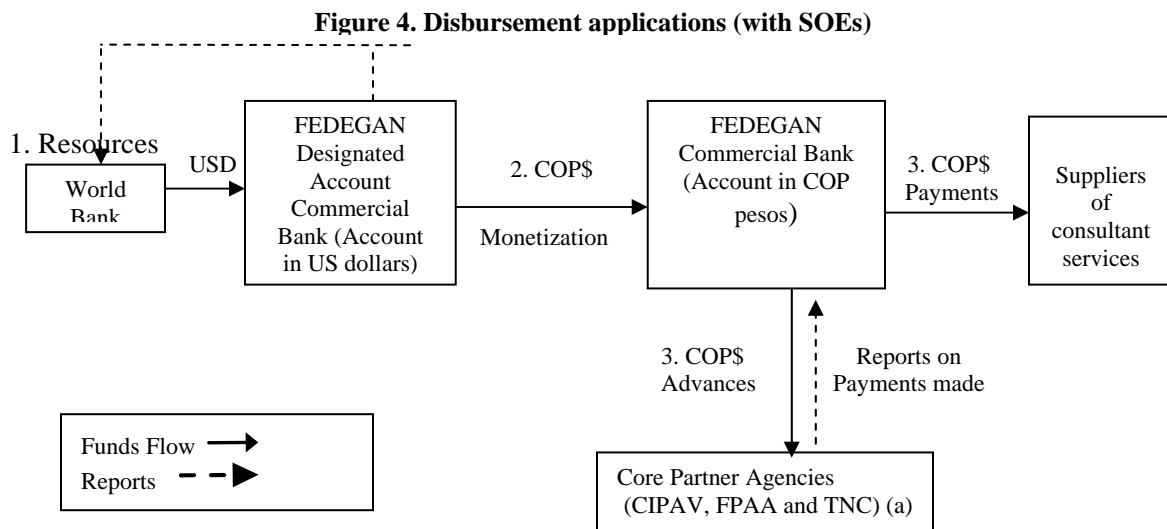
FEDEGAN will be the grant recipient/lead executing agency with the participation of CIPAV, the FPAA and TNC, core partner agencies, who will execute part of the Grant. However, FEDEGAN will coordinate all FM arrangements for the Project. FEDEGAN's institutional FM systems and expertise are well developed. FEDEGAN's FM staff will coordinate FM processes with the Bank and no incremental staff will be required for Bank FM purposes.

8. **Subsidiary agreements**, as detailed in Annex 6, would be drafted prior to negotiations and signed between FEDEGAN and CIPAV, FPAA, and TNC before grant effectiveness.
9. **Budgeting arrangements.** FEDEGAN is responsible for project administration and the execution of all project resources and on the basis of the project Annual Operative Plans (POAs) FEDEGAN will update and prepare the annual budgets during project implementation, and monitor their execution on a monthly basis. These POAs will be authorized by the Steering Committee composed by the project coordinators of FEDEGAN, CIPAV, FPAA, and TNC. This task will be an integral part of the entity's own budget cycle management and processed through FEDEGAN's budgetary system NOVASOFT by project, which updates budget execution records in line with accounting. The Bank will review the annual operational and procurement plans. FEDEGAN's finance sub-directorate is composed of sixteen (16) staff with proper qualifications and experience in administration of project's budgeting. This team is responsible for follow up on budgeting execution.
10. **Accounting system.** The accounting records will be integrated into the entity's system NOVASOFT, which is an online, integrated administrative and financial system, where budgeting, accounting, treasury, accounts receivables, payroll, fixed assets and accounts payables modules are connected. In accordance with the latest Controller General (CGR)'s report and internal audit office's evaluation its performance has been satisfactory. The accounting for the project will be defined through the "online cost center" that will be created once the Grant Agreement is signed, therefore NOVASOFT will be able to generate separate financial reports for the project.
11. FEDEGAN will control the execution of advanced funds to the core partner agencies, through control accounts in NOVASOFT system, based on the reports issued by the core partner agencies on a monthly basis. This report will include: (i) control report of delivered advances; (ii) details of the reconciliation (*legalizaciones*) for the informed period; and (iii) support documents of the *legalizaciones*. This requirement should be incorporated into the subsidiary agreement signed between FEDEGAN and each agency.
12. The finance sub-directorate team is responsible for preparation and presentation of the technical and financial information required by the Bank and has proper qualifications and high experience in project execution to fulfill the accounting and reporting needs of the project.
13. **Internal control and internal auditing.** FEDEGAN has established an internal audit office (IAO), which is responsible for applying processes and procedures established by FEDEGAN quality control system. As with other public funds and project execution by delegation of the GoC, the internal control system of the project would incorporate the policies and procedures established by the IAO. FEDEGAN's IAO is composed of twenty-three (23) professionals with proper qualifications and experience in internal control function. It reports directly to the Board. IAO assessed the FEDEGAN's internal control system and concluded that the level of risk is low and control environment is adequate.

fiscal taxes from producers to reinvest in the sub-sector's development. In 2008, resources under the two funds totaled nearly US\$28M. In addition, FEDEGAN has entered into cooperation agreements with the Colombian Institute for Agriculture and Livestock (ICA) to support the national foot-and-mouth disease eradication campaign, and with the National Learning Service (SENA) for the specialized training of cattle ranching enterprises, executing nearly US\$2.7M of GoC resources in 2008.

This office prepares an annual planning and designs a chronogram of activities and submits reports to the Board on a semester basis. IAO will prepare regular technical and financial reports of the project and will follow up on the implementation of the recommendations issued by the project’s external auditor and the action plans agreed in the World Bank supervision missions.

14. FEDEGAN will adopt the procedures described in the OM and no incremental actions or staffing will be required for Bank FM purposes.
15. **General flow of funds.** FEDEGAN will have a Designated Account (DA) in US dollars, in the name of the project, in a commercial bank (*bank's name tbc by the entity and LOA*), exclusively to manage the grant funds. FEDEGAN will monetize funds into Colombian pesos account in a commercial bank (*bank's name tbc by the entity*), exclusively to manage the project funds, of where funds will be directly transferred to the accounts of providers of goods and services after expenditures are accrued and to the core partner agencies as advances. All payments will be made based on the project Annual Operational Plans (AOPs) approved by the Steering Committee. The detailed cash flow is as follows and will also be included in the operational manual⁵³:



16. **Disbursement arrangements.** Eligible expenditures will be recognized upon payment to consultants, suppliers and PES beneficiaries. Should instances of ineligibility be brought up by audit reports or by Bank supervision, the related amounts will be returned by FEDEGAN to the Designated Account or directly to the Bank. FEDEGAN will be responsible for preparing and submitting withdrawal applications to the Bank.

17. The grant disbursement arrangements⁵⁴ are hereby summarized:

Disbursement method	Advance to designated account (DA) with subsequent documentation of eligible expenditures.
Supporting documentation	Statements of Expenditures (SOEs ⁵⁵).

⁵³ **Notes** (a) Subsidiary agreements will be signed between FEDEGAN and CIPAV, FPAA, and TNC before the GEF’s first disbursement. Steering Committee composed by the project coordinators of FEDEGAN, CIPAV, FPAA, and TNC will authorized project Annual Operative Plans (POAs). (b) Core Partner Agencies will send monthly execution reports to FEDEGAN.

⁵⁴ For details, please see the Disbursement Handbook for World Bank Clients.

Designated account and procedures	<ul style="list-style-type: none"> ▪ The project will be able to request advances and replenishments to a Bank account designated by FEDEGAN in US dollars, located in a commercial bank (<i>bank's name tbc by the entity and LOA</i>), exclusively to manage grant funds, for processing disbursements for eligible expenditures under project activities. ▪ Funds deposited into the DA as advances will follow the Bank's disbursement operating policies and procedures established in the Disbursement Letter. ▪ An authorized ceiling, i.e. the maximum amount that may be on deposit pending the provision to the Bank of documentation evidencing the use of advanced funds made into the Designated Account, will be set at USD 0.7 million (<i>tbc by TTL and LOA</i>).
Other Disbursement mechanisms	<ul style="list-style-type: none"> ▪ Other disbursement mechanisms are not expected to be required; however, upon request from FEDEGAN and subject to Bank's approval, direct payments may be made for eligible expenditures to a third party (supplier or consultant).
Retroactive expenditures	<ul style="list-style-type: none"> ▪ A maximum amount of USD 0.7 million may be financed by the Grant for eligible payments made after GEF's Chief Executive Officer (CEO) endorsement and within 12 months of the date of the legal agreement. (<i>tbc by TTL and LOA</i>).

18. Disbursement Categories

Table 9. Disbursement Categories

Category Description ⁵⁶	Total amount of Grant allocated (USD)	% of Expenditures to be Financed
Works	0	Not expected
Goods	129,467	100%
Consultant Services	2,707,894	100%
Non-consulting services	945,241	100%
Others (PES Subprojects)	3,055,224	100%
Operating Costs	160,375	100%
Total	7,000,000	

19. **Financial reporting.** The Finance Sub-directorate of FEDEGAN will prepare Interim Financial Reports (IFRs). The IFRs agreed include the following reports generated by the accounting system NOVASOFT: (a) project's consolidated balance sheet; and (b) budgeting availability report (project commitments). In addition, IFRs should include: (c) control report of delivered advances to the core partner agencies; (d) the consolidated cumulative investment statement (with actual and budgeted figures); (e) reconciliation between consolidated cumulative investment statement and project's consolidated balance sheet; (f) designated account (DA) reconciliation and statement of the DA; (g) narrative information regarding project execution; and (h) notes to the financial statements. Report formats are in project files.

20. IFRs will be sent to the Bank semiannually within 45 days after the end of each such period (that is, by August 15 and February 15). The IFRs will be approved by the Steering Committee before being sent to the Bank. The IFRs will serve as a basis for the annual financial statements. Audited financial statements will be prepared in accordance with acceptable accounting standards. The annual financial statements, once audited, will be submitted to the Bank not later than six months after the end of each audited period. The supporting documentation of the financial statements will be maintained by FEDEGAN and made easily accessible to Bank supervision missions and to the external auditors.

21. After grant effectiveness, the financial reports will be presented by FEDEGAN as follows:

⁵⁵ All SOE supporting documentation will be available for review by the external auditors and Bank staff at all time during project implementation, and at least until one year after the audit report covering the last disbursement has been received by the Bank.

⁵⁶ See Annex 8 for definitions.

Report	Due date
Bi-annual unaudited project IFRs	Within 45 days after the end of each calendar semester
Annual audit report on project financial statements and eligibility of expenditures	Within six (6) months after the end of each audited period

22. **External audit.** Government funds in FNG are audited by the CGR. Entity financial statements' opinion reported by the CGR as of December 31, 2006 and 2007 was unqualified (clean) and its conclusion of the internal control system assessment was that it is effective and the level of risk is low.
23. Annual audits on project financial statements and eligibility of expenditures will be performed in accordance with Bank policy, as reflected in the audit terms of reference. An independent audit firm selected by FEDEGAN and acceptable to the Bank will conduct the project audits.
24. **Written Procedures.** Project financial procedures will be described in the Operational Manual (OM) which, among other things, will define the roles and responsibilities of the project FM team. The draft OM will be submitted to the Bank before negotiations and will include, among other financial procedures: (a) interim financial reports (IFRs) format based on the agreements made with FEDEGAN; (b) cash flow charts with detailed processes; (c) internal control procedures including criteria and procedures for processing payments; (d) records management; (e) audit arrangements and Terms of Reference (TORs); (f) a copy of the subsidiary agreements signed between FEDEGAN and CIPAV, FPAA, and TNC; and (g) the necessary documents and payment instructions for project execution.
25. **Risk assessment.** On the basis of the Bank's Project FM assessment, the overall FM residual risk is considered moderate, as explained in the following table:

Table 10. FM Risk Table

Risk type ⁵⁷	Risk Rating	Comments / Risk Mitigation Measures Incorporated into Project Design	Residual Risk Rating
Inherent Risk	S		M
Country level:	M		M
Entity level:	M		M
Project level Risks <ul style="list-style-type: none"> ▪ FEDEGAN has not previous experience in implementing Bank-financed projects. 	S	<ul style="list-style-type: none"> ▪ FEDEGAN has ample experience in the administration of public funds and project execution by delegation of the GoC. For this reason, FEDEGAN is supervised by CGR. ▪ In addition, risks will be mitigated through the control framework (see below). 	M
Control Risk	M		M
Budgeting	M	POAs will be authorized by the Steering Committee.	M
Accounting	M		M
Internal Controls	M	IAO will prepare quarterly a technical and financial report of the project and will follow up on the implementation of the recommendations issued by the project's external auditor and the action plans agreed in the WB supervision missions.	M
Funds Flow	S	All payments will be made based on the	M

⁵⁷ The FM inherent risk is that which arises from the environment in which the project is situated. The FM control risk is the risk that the project's FM system is inadequate to ensure project funds are used economically and efficiently and for the purpose intended. The overall FM risk is the combination of the inherent and control risks as mitigated by the client control frameworks. The residual FM risk is the overall FM risk as mitigated by the Bank supervision effort.

Risk type⁵⁷	Risk Rating	Comments / Risk Mitigation Measures Incorporated into Project Design	Residual Risk Rating
		project POAs approved by the Steering Committee. Funds advanced to partner agencies will be tightly controlled by FEDEGAN.	
Financial Reporting	M	FEDEGAN will submit bi-annual unaudited project IFRs and annual audited financial statements. IFRs will be approved by the Steering Committee before being sent to the Bank.	M
Auditing	M	Government funds in FNG are audited by the CGR An independent audit firm selected by FEDEGAN and acceptable to the Bank will conduct the annual audit on Project financial statements and expenditure eligibility.	M
Overall Risk	M		M
Non-standard conditions			
Bank FM supervision		At least one full FM supervision mission per year, which will look into the operation of the control systems and arrangements, described in this annex. Desk reviews of IFRs and audit reports.	
Residual risk	M		M

H – High; S – Substantial; M – Moderate; L - Low

Financial Management Action Plan

Action	Responsible	Completion Date ⁵⁸
Prepare the Draft of the Financial Management Chapter of Operational Manual and submit it to the Bank.	FEDEGAN	August 2009
Prepare specific audit terms of reference and include them into the Operational Manual.	FEDEGAN	August 2009

⁵⁸ This column denotes the expected date of completion for each action. It does not give indication of legal conditions.

Annex 8: Procurement Arrangements

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004 and revised October 2006; the "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, revised October 2006; and the provisions stipulated in the Grant Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Grant Recipient and the Bank in the Procurement Plan. The Procurement Plan would be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.
2. **Procurement of Works:** Not expected.
3. **Procurement of Goods:** Seeds, trees and other related items for wind barriers or live fences, monitoring (images and GPS) and office equipment, sundry goods and small valued items, including didactic and dissemination materials would be procured under this category. The procurement method to be used is NCB using Harmonized SBD and shopping.
4. **Procurement of non-consulting services** refers to all contracts for services not related to consultant services. It includes logistics, organizations of seminars, training, workshops, travel, printing and dissemination materials, production of written and audiovisual materials, facilities and related services for training purposes, baseline assessments through farm and land surveys, and verification of land use changes through farm surveys. It is expected that most of these services would be procured by shopping or commercial practices.
5. Under non-consulting services it is also expected that the Project would finance expenditures incurred in connection with the carrying out of capacity building activities and workshops under the Project, including travel costs, per diem of trainers, trainees, facilitators and stakeholders, rental of facilities, preparation and production of training materials and other activities incidental to the preparation and implementation of training activities. It is expected that most of these services would be procured by shopping or commercial practices.
6. **Procurement of Consultant services** would include legal and technical assistance to farmers, M&E, supervision, audit services, training and technical studies. Short lists of consultants for services estimated to cost less than \$350,000.00 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.
7. **Individuals.** Individual consultants would be selected in accordance with the provisions of paragraphs 5.1 through 5.3 of the Consultant Guidelines.
8. **Operating Costs:** Operating Costs include sundry items such as office supplies and maintenance, communications, transportation and other expenses related to day-to-day project management. Supplies and some of the services would be procured using FEDEGAN procurement procedures reviewed by the Bank and considered satisfactory. These procedures would be described in detail in the Operational Manual

9. **Others:** The nature of the Project include annual payments for environmental services (PES Subprojects) made to eligible participating farmers who have entered into a PES contract with the FPAA, as the PES account administrator. There are no procurement transactions identified in these payments which include costs associated with the administration of the special account to fund PES subprojects. The Lead Executing Agency is subject to the private sector legislation and practices, therefore commercial practices applied by FEDEGAN as described in the Operational Manual would be acceptable up to \$50,000.00. These practices have been reviewed by the Bank and considered satisfactory.
10. The procurement procedures and Harmonized SBDs to be used for each procurement method, as well as model contracts for goods procured, would be presented in the Project Operational Manual.

B. Assessment of the agency's capacity to implement procurement

11. An assessment of the capacity of the Lead Executing Agency to implement procurement actions for the project has been carried out by the PAS assigned to the proposed project on June 19, 2009. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement within FEDEGAN. The agency is staffed with at least three specialist dedicated to the procurement function; this staff would be trained in the Bank's procurement guidelines and procedures before FEDEGAN carries out the first procurement process.
12. The key issues and risks concerning procurement for implementation of the proposed project have been identified and include lack of experience of the Lead Executing Agency in the Bank's procurement guidelines and procedures. The corrective measures which have been agreed upon include:
 - Procurement training for staff in FEDEGAN
 - Prior review of the first procurement process for each method
13. The overall project risk for procurement is Moderate. This rate would be reviewed during the first supervision mission.

C. Procurement Plan

14. The Grant Recipient would develop a procurement plan for project implementation which provides the basis for the procurement methods and contracts subject to prior review. This plan is agreed between the Grant Recipient and the Project Team on *[date]* and would be available at the World Bank Colombia Office. It would also be available in the project's database and in the Bank's external website. The Procurement Plan would be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

15. In addition to the prior review supervision to be carried out by the Bank team, the capacity assessment of the Lead Executing Agency has recommended two field supervision missions to carry out an ex post review of procurement actions.

E. Details of the Procurement Arrangements Involving International Competition

16. Goods, Works, and Non Consulting Services: Not expected
17. Consulting Services with short-list of international firms: Not expected

Annex 9: Economic and Financial Analysis

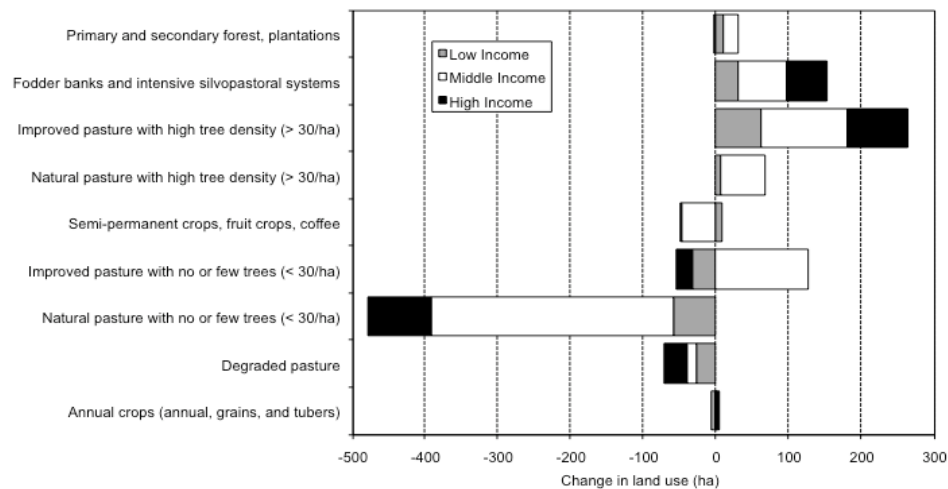
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

1. As the benefits being sought by the project are global, their value was not estimated. First, a financial analysis was undertaken from the perspective of the participating farmers, to ensure that the incentives provided by the project are sufficient to induce sustainable adoption of the desired land use practices. Afterwards a cost-effectiveness analysis was conducted from the GEF perspective.

A. Financial analysis

2. **Results of the Regional Silvopastoral Project.** The GEF-financed *Regional Integrated Silvopastoral Approaches to Ecosystem Management Project* implemented in Colombia, Costa Rica, and Nicaragua between 2002 and 2008, demonstrated that PES can induce significant land use change in areas of extensive pasture.⁵⁹ At the project's site in Quindío, Colombia, some form of the land use change occurred on 1258ha (44% of total area), as shown in Figure A9-1. Changes ranged from minor (such as sowing improved grasses in degraded pastures) to very substantial (such as planting high-density tree stands or establishing fodder banks). The area of degraded pasture fell by over 90%, and the area of natural pastures without trees declined by two thirds. Most of the gains were experienced in pastures with high tree density, which increased from almost nothing to 334ha. The area of fodder banks increased relatively little (from less than 5ha to over 28ha), but that of intensive silvopastoral systems (*Leucaena* planted at 5000 trees/ha) increased substantially (from 0ha to 130ha). About 346km of live fencing were established. The land use changes undertaken by PES recipients were vastly greater than those observed in the control group – less than 13% of the control group's land experienced any change. Using the Regional Silvopastoral Project's Environmental Services Index, service generation by PES recipients increased by 50%, compared to only 7 % for the control group.

Figure A9-1: Land use changes by Silvopastoral Project PES recipients in Quindío, Colombia, by income group



Source: Pagiola, Rios, and Arcenas, 2009.

3. **Learning from the Regional Silvopastoral Project.** While the Regional Silvopastoral Project's approach to PES proved very successful in Quindío, it also faced some significant limitations. The short-term PES approach used by the project only succeeded in inducing the adoption of practices that had high long-term on-site benefits for farmers. Many land uses that would have provided significant environmental benefits, such as riparian forests, were only adopted to a very limited extent, or not at

⁵⁹ The Silvopastoral Project's impact on land use change in Quindío is analyzed in detail in Pagiola and Rios (2009).

all. Conversely, it became clear that some of the practices supported with PES were sufficiently profitable to be adopted even without payments. Based on this experience, the *Mainstreaming Sustainable Cattle Ranching Project* is adopting a three-pronged strategy to induce the adoption of practices that would bring substantial improvements in biodiversity conservation, as detailed in Annex 4A. The project will offer (i) TA and facilitate access to credit to support adoption of practices that are highly profitable for farmers⁶⁰; (ii) short-term PES for the adoption of practices that are profitable for farmers once established, but that are unattractive to farmers because of their high initial investment costs; and (iii) long-term PES for the adoption of practices that are not profitable for farmers even once established. In the analysis that follows, we focus on the first two categories of practices. The incentives to be provided under the long-term PES mechanisms to be developed under component 2.2 will be decided when those mechanisms are designed, and will be the subject of a financial analysis as part of that process.

4. Although the Regional Silvopastoral Project showed that PES can result in substantial land use change, these results do not automatically carry over to this project, even for the short-term PES which are most similar to the Regional Silvopastoral Project's payments, as (i) a different point system is being used, with a different payment per point; and (ii) the costs and benefits of alternative land uses have changed.
5. **Estimating farm-level profitability.** The profitability of current and silvopastoral practices are estimated on a per hectare basis, from the perspective of the farmers.⁶¹ Data on yields and inputs under different practices and how they change over time are based on the Regional Silvopastoral Project data, complemented by data generated from workshops held in each of the project sites attended by local farmers, extension agents, and technicians. A joint research project between FEDEGAN, the National Learning Service (*Servicio Nacional de Aprendizaje*, SENA), and CIPAV provided considerable information on the Caribbean sites. The costs of inputs and outputs are based on prices observed at the project sites in mid 2009 and FEDEGAN's database. Labor costs (including the imputed value of household labor) are estimated using the typical cost of informal labor (*jornal*) at the project sites (about US\$8/day), which is about half the legal minimum wage, except for salaried farm managers (*mayordomos*), whose costs are estimated at about US\$14/day. A time horizon of 26 years is used, reflecting the length of the longest-cycle tree typically used (teak). A real discount rate of 8 percent is used. For the purposes of this analysis the low altitude Cesar River Valley and Lower Magdalena River sites are grouped together as 'Caribbean corridor' sites, while the "terrazza de Ibagué" and coffee growing ecoregion sites are grouped together as 'coffee corridor' sites. Data were insufficient to allow a separate analysis of the high altitude Boyacá-Santander and the low eastern foothills sites.
6. **Impacts of silvopastoral practices.** Silvopastoral practices can affect profitability in several different ways: (i) by allowing higher stocking rates per hectare⁶²; (ii) by increasing the quantity and/or quality of milk output per head; (iii) by reducing herd mortality during the dry season, when fodder availability is often low under current practices; and/or (iv) by reducing costs for agrochemicals or nutrients.⁶³ For example, Figure A9-2 shows how carrying capacity varies across some of the practices considered. In the Caribbean corridor sites, the stocking rate is only 0.5 UGG/ha while improved practices allow a progressively higher stocking rates, reaching almost 4 UGG/ha under iSPS. In the coffee corridor sites, the current practice of improved pasture without trees has the highest stocking rate but this is achieved only with high levels of fertilization; the resulting high costs reduce the

⁶⁰ Profitability here is measured relative to the most profitable alternative, not in absolute terms.

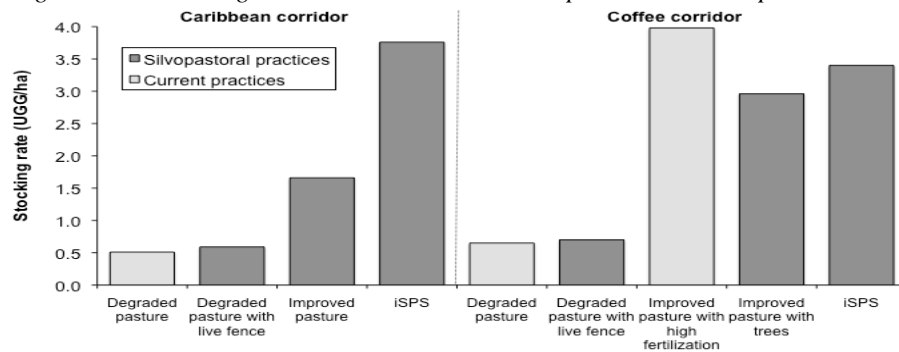
⁶¹ Thus, possible interactions across individual practices are not taken into account.

⁶² Livestock are converted into livestock units (*Unidad Gran Ganado*, UGG, equivalent to an animal of 450kg) using the following conversion factors: adult cows, 1.0 UGG; oxen or breeding bulls, 1.55 UGG; calves, 0.33 UGG; yearlings, 0.7 UGG.

⁶³ Monitoring of farms participating in the Silvopastoral Project evidenced improved carrying capacity from 1.8 a 2.5 UGG/ha, which resulted in increased production of milk (from 5.0 to 6.1 lt/cow/day) and beef (from 450 to 800 kg/ha/year).

profitability of this practice. Improved pasture with trees and iSPS have slightly lower stocking rates, but at much lower annual costs.

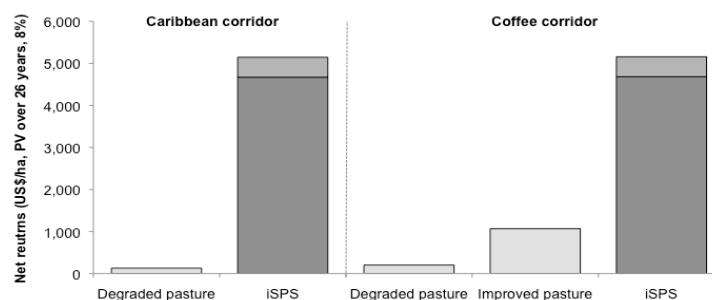
Figure A9-2: Stocking rates under current and silvopastoral land use practices



Component 1 – Support to highly profitable practices

- The results of the Regional Silvopastoral Project show that some land use practices can be very profitable for farmers even without any compensation for the environmental services they provide. In particular, this was found to be true for Intensive Silvopastoral Systems (iSPS) based on *Leucaena* planted at high density (5000 trees/ha). Under the Regional Silvopastoral Project, the area planted under such systems among participating farmers increased from 0 to 130 ha. Moreover, adoption of iSPS has continued in the area even after payments ceased. Figure A9-3 shows that iSPS are substantially more profitable than current practices in the Caribbean and coffee-producing corridors, confirming that PES are not necessary to induce the adoption of iSPS. The primary obstacles to adoption of iSPS by farmers are their high initial costs and their technical complexity. Therefore, the project’s component 1 will facilitate access to credit, through the Ministry of Agriculture’s *Incentivo de Capitalización Rural* (ICR) program, and provide TA to participating farmers who wish to adopt iSPS. Because the ICR credit program is subsidized, it further increases the profitability of iSPS (see Figure A9-3); it’s main benefit in this case, however, is that it allows farmers to finance the high initial investment costs.⁶⁴

Figure A9-3: Estimated profitability of current and intensive silvopastoral systems (iSPS)



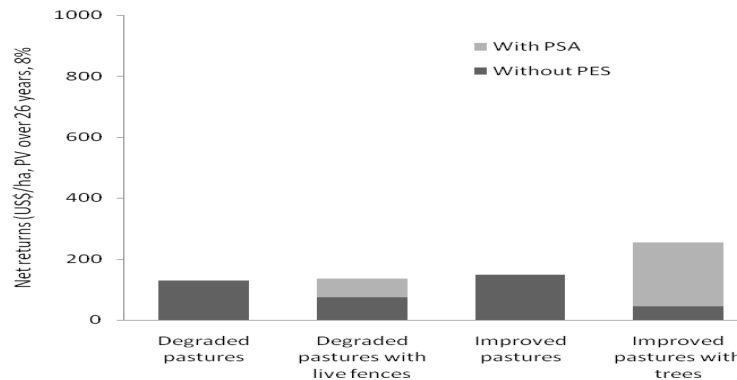
Component 2.1 – Support to practices that are profitable once established

- Adoption of many silvopastoral practices is unattractive to farmers because of the substantial initial investment required, and the time lag between investment and returns. Once these practices are established, however, they can be quite profitable for farmers. The short-term PES offered to these

⁶⁴ The ICR includes a subsidy of US\$452; in addition, by reducing the debt that farmers have to take on to implement iSPS, it also results in savings on interest payments. The ICR is received after planting has been verified, and disbursement is sometimes delayed. The estimates assume the ICR is received in the year after planting.

practices under component 2.1 is thus intended to ‘tip the balance’ between current and silvopastoral practices, by increasing the net present value of investments and reducing the period in which these practice impose net costs on land users. As explained in Annex 4A, participating farmers would receive a payment of US\$0.75 per incremental point, based on the biodiversity index developed for the project. Results from the Regional Silvopastoral Project proved that this amount would trigger the expected land use change. Within the first two years of project execution, an assessment will be carried out to determine if adjustments of this value are needed in any of the five project sites (See figure A 9.4)

Figure A94: Estimated profitability of current and silvopastoral practices



9. This component will cover a total of 38,500 ha of all land uses eligible for short-term PES in the five project regions.
10. Because the practices supported under this sub-component are only marginally profitable without PES, adoption outside the project is likely to be minimal. On the one hand, this means that the project’s impact is wholly incremental, but on the other hand it also means that there can be little hope for additional spontaneous adoption once the project ends.

Overall results

11. **Sensitivity analysis.** Because of the huge difference in estimated profitability between current practices and iSPS, the results for component 1 are robust to substantial changes in assumptions. For component 2, results are more sensitive to changes in assumptions such as cost of labor and milk price.
12. **Sustainability.** Adoption of iSPS is likely to be highly sustainable, given their very high profitability once technical complexities and high initial costs are overcome. Indeed, with adequate access to financial resources, farmer training and TA and a strategy for information dissemination, it can be expected that there will be substantial spontaneous adoption outside the project areas, and beyond the end of the project. The silvopastoral practices adopted with the support of short-term PES are also likely to be maintained beyond project end, as these practices are profitable once established, as shown in Figure A9-4. Indeed, no abandonment of similar practices in the Regional Silvopastoral Project’s Quindío site has been noted since that project made its last payment in 2007.⁶⁵ However, without short-term PES, there is little chance of spontaneous adoption of silvopastoral practices beyond the end of the project because of their high investment costs. While the maintenance of the benefits gained under this project is not in doubt, the continued expansion of these practices past project end would be

⁶⁵ As part of this project’s monitoring efforts, re-surveys of all Quindío Silvopastoral Project participants (including the control group), are planned at the beginning and end of implementation. This will give observations of land use patterns of the Quindío PES recipients about three and eight years after payments ended, thus allowing the sustainability of the practices to be examined in detail.

dependent on securing additional funding to make short-term PES payments. Payments for the carbon sequestered by silvopastoral practices could provide one source of such funding, assuming the Clean Development Mechanism is renewed with reasonable rules on eligibility of forest-based carbon and on the amounts of forest-based carbon that can be used to meet commitments.⁶⁶

13. **Participation by poorer farmers.** Concern has often been expressed about the ability of poorer farmers to participate in PES programs. This concern is particularly acute when PES calls for adopting costly and technically difficult land use practices, as opposed to simply conserving existing forests. As can be seen from Figure A9-1 above, this concern did not prove accurate in the case of the Regional Silvopastoral Project. In Quindío, external incentives enabled poorer farmers to participate quite extensively in the program. Payments received from the PES scheme covered some of the initial investment costs and TA provided adequate capacity to overcome the technical difficulties associated with these practices. Low income households accounted for 35 percent of the decline in degraded pastures and 45 percent of the decline in improved pasture without trees. They accounted for only 9 percent of the decline in natural pasture without trees, but this is primarily due to their having the least area in this category of any of the income groups. Moreover, land use changes by poorer households were not limited to the cheaper and simpler practices, but included more onerous and complex practices, including fodder banks and iSPS. An analysis showed that the differences in the extent of land use changes by poorer and better off farmers were not statistically significant. Similar results were found at the Silvopastoral Project's site at Matiguás-Río Blanco, Nicaragua, where average poverty levels were much higher than in Quindío.⁶⁷

B. Cost-effectiveness analysis

14. **Extent of induced land use change.** The total land use change that the project will induce is thus estimated to be about 50,500 ha, or 20,850 ha of forest equivalent. As noted, this is a conservative estimate in the case of iSPS, but a realistic one in the case of silvopastoral practices that are profitable once established. It does not include any area that might be conserved under local PES mechanisms for water services.
15. **Cost-effectiveness of GEF support.** To estimate the cost-effectiveness of the induced land use changes from GEF's perspective, we compute the cost to GEF of each hectare of land use change. Although silvopastoral practices have higher biodiversity levels than current extensive pastures, they fall short of what mature forests or intact ecosystems would provide. To allow for this, we weight the area of each practice using the biodiversity index developed for this project. According to this index, for example, iSPS have about 50 percent of the points of mature forests, so that each 2 ha of iSPS are equivalent to restoring about 1 ha of forest.
16. **Component 1.** GEF would provide US\$1.7 million of the estimated US\$30.9 million cost of this component. Under this component, highly-profitable silvopastoral practices (primarily iSPS) are expected to be adopted on an estimated 12,000 ha across the five project sites, which is equivalent to restoring about 6,000 ha of forest. Given GEF's US\$1.7 million contribution to this component that includes costs of activities that are related to component 2, such as training (\$85,000), baseline characterization (\$203,000), TA (\$653,000), and technical adjustment (\$128,000), the cost per hectare of forest equivalent in iSPP would be about US\$105. This is a conservative estimate, as once iSPS become more widely known and experience in adopting them grows, their adoption is likely to

⁶⁶ The results of the Silvopastoral Project suggest that carbon financing could be a viable source of funding for silvopastoral practices, even if it had to bear the whole burden of payments. The Silvopastoral Project demonstrated that a US\$75/point/year payment induces substantial land use change. If such a payment were solely for carbon sequestration, it would correspond to US\$15/tC, or US\$4.1/tCO₂e — quite compatible with prices of US\$4–5/tCO₂e paid by the BioCarbon Fund for CDM-compliant forestry-based emissions reductions, as long as transaction costs are kept low.

⁶⁷ The participation rates of poorer households in the Silvopastoral Project are analyzed in detail in Pagiola and others (2008, 2009).

continue even without project support. Conversely, because iSPS are profitable, there would likely be some degree of adoption even without project support; this effect would likely be small, however, as iSPS are practically unknown outside of the area where the Regional Silvopastoral Project worked. For comparison, the cost to GEF of inducing conversion of degraded pastures to iSPS under the Silvopastoral Project was US\$480/ha (also without considering induced changes beyond the end of the project, nor non-project adoption), or US\$600/ha of forest equivalent. Costa Rica's PSA program provides another comparison: it pays farmers US\$980/ha for reforestation (but has found very little acceptance by farmers at this price).

17. **Sub-component 2.1.** GEF would provide US\$3.8 million of the estimated US\$5.6 million cost of this sub-component. Under this sub-component, silvopastoral practices are expected to be adopted on an estimated 38,500 ha across the five project sites. Assuming that 87 percent of this are pastures with trees and live fences, etc., that 50 percent are located in connectivity corridors, that native species are used in 50 percent of the cases that are eligible for additional payments for doing so, and using the biodiversity index developed for this project as weights, this is equivalent to restoring about 14,850 ha of forest. Given GEF's contribution to this sub-component, the cost per hectare of forest equivalent would be US\$328.
18. **Sub component 2.2.** GEF would provide US\$48,223 of the estimated US\$1,03million cost of this sub-component, to help cover the initial costs of establishing long-term local PES mechanisms for water services in areas of biodiversity importance. The area that would be covered by such mechanisms cannot be known at this point. For illustration, a similar local mechanism developed in the Río Chaina microwatershed (about half of which is inside the Iguaque National Flora and Fauna Sanctuary) covers 40 percent of the total area of 444 ha (Borda and others, 2009).
19. **Overall cost-effectiveness.** The overall cost of the land use changes induced by the project, therefore, is US\$401/ha of forest equivalent, omitting the contribution from component 2.2. This is substantially less than the cost of the land use changes induced by the Regional Silvopastoral Project, which came to about US\$680/ha in payments alone.⁶⁸ This improvement is due to the new, three-pronged strategy that focuses GEF resources on those land use changes where they are indispensable to induce land use change.

⁶⁸ In the Silvopastoral Project's Quindío site, there was some form of land use change on 1,258 ha, which increased average environmental service points by 0.33/ha, giving 415 ha of forest equivalent. The total increase in environmental service points was 945, which at US\$75/point per year over 4 years required US\$283,000 in payments from the Project. Thus average payments came to US\$280/ha of forest equivalent. Note that this excludes the transaction costs of making payments, and the substantial expenditures devoted to monitoring. The latter are properly excluded, however, as the project was intended to be a pilot for future projects. Indeed, this project depends heavily on lessons and data generated by the Regional Silvopastoral Project.

Annex 10: Safeguard Policy Issues

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Overview

1. The proposed project is expected to directly generate important environmental and social benefits. It seeks to improve the sustainability and productivity of cattle ranching in Colombia through the adoption of environment-friendly silvopastoral production systems, whereby related land uses fostering higher levels of biodiversity and carbon sequestration, and reducing land degradation would be promoted through the combined financial, capacity-building, and ecomarket-based instruments foreseen under the project.. Seeking to mainstream environmental factors in key productive sectors also addresses water user needs in different regions affected by the predominant cattle ranching productive systems.
2. The site selection methodology combined the biodiversity, productive, ES, and social criteria listed in Table 11 below, which enabled project partners to delineate and assess several potential sites:

Table 18. Site selection criteria

Biodiversity criteria	Productive criteria	ES criteria	Social criteria
<ul style="list-style-type: none"> • Irreplacibility (gap analysis as regards the National Protected Areas System) • Ecosystem diversity • Degree of fragmentation • Connectivity potential • Viability of remnant patches • Transformation and/or degradation threat • Coincidence with regional PA gap analyses and potential new PA • Presence of AICAS (Areas of Importance for Bird Conservation) • Proximity to National Park buffer zones • Presence of riparian ecosystems 	<ul style="list-style-type: none"> • Cattle ranching is predominant in each area • Export potential • Location in/near traditional cattle ranching conglomerates • Presence of cattle ranching associations • Green market opportunities • Road infrastructure • Competition for land use • Presence of a strong TECNIGAN and operative facilities 	<ul style="list-style-type: none"> • Presence of aquatic ecosystems to be conserved • Opportunities for PES from water users • Opportunities for carbon sequestration 	<ul style="list-style-type: none"> • Distance to Indigenous or Afro Colombian territories⁶⁹ • Internal displacement • Conditions of public order and security

Compliance with Safeguard Policies

3. **Environmental Assessment (OP/BP 4.01).** The project is classified as category “B”, which requires some type of environmental analysis, but not a full-scale Environmental Impact Assessment. The results of this analysis highlight the project’s environmental benefits for the conservation of globally important biodiversity in cattle ranching production systems, the reduction of emissions from deforestation and

⁶⁹ In the absence of a regulatory framework allowing for PES to collectively-owned territories, areas were chosen distant from these territories.

forest degradation, the improvement of rural adaptation to climate change, and the reduction of land degradation in five key production areas through the adoption of SPS. As areas have been chosen taking into account their geographic proximity to PA, among other criteria, enhanced connectivity between ecosystems would also include connectivity to PA and their buffer zones. This would allow for the mutual reinforcement of biodiversity protection within cattle ranching farms and PA buffer zones, enhancing the benefits from SPS.

4. The positive global and local environmental benefits of SPS, as demonstrated by the RSPS Project and recaptured in the EA, include: (i) substantial increases in biodiversity (among other indicators, both the number of species of birds observed and the number of individuals increased, including many forest-dependent and endangered species); (ii) substantial carbon sequestration both directly (carbon stored in the soil and in trees) and indirectly (by inducing fewer applications of nitrogen fertilizers—which were substituted with nitrogen fixing plants, by significantly reducing the use of fire as a pasture management tool, and by reducing methane emissions from cattle through improved nutrition). Carbon stocks measured in silvopastoral habitats were higher than in degraded lands, and GHG emissions were lower; (iii) improved water quality (a rapid drop in turbidity, biological oxygen demand, and coliform counts was registered as riverbanks were reforested and protected from livestock entry, as well as the return of invertebrates indicative of unpolluted water); (iv) improvements in soil retention and productivity; (v) land rehabilitation; (vi) diversification of farm benefits; and (vii) scenic beauty enhancement.
5. The use of deep-root perennial trees in proposed SPS would reduce farmer vulnerability to environmental change as such species are drought tolerant, act as wind barriers, and provide shade. In addition, their use would allow for more stable forage production during drier seasons.
6. Adverse environmental consequences from project implementation are highly unlikely. Several mechanisms were used to avoid negative environmental effects: (i) none of the five selected areas are considered active agricultural frontiers as they are currently consolidated areas for agricultural activities (mainly cattle ranching); (ii) the proposed PES scheme grants a baseline payment for preserved forests to recognize previous conservation efforts by participating farmers; subsequent payments would be made each year if they are preserved. Highest ES values and therefore payment levels, are assigned to existing mature forests and wetlands to discourage their conversion to production land uses; (iii) the proposed Integrated Pest Management Plan would reduce the use of pesticides and their impact on human health and the environment; and (iv) the proposed connectivity corridors along which to prioritize activities under Component 2 were designed to reconnect fragments of key remnant natural ecosystems identified in each of the cattle ranching landscapes analyzed.
7. The implementation of PES schemes, along with the promotion of environmental and production good practices are expected to raise farmer awareness on sustainable natural resource management..
8. **Natural Habitats (OP/BP 4.04) and Forests (OP/BP 4.36).** The project is fully consistent with the Bank policies for natural habitats and forests. It would not promote any loss of remnant forest or other natural habitats, but rather help increase their connectivity through the proposed corridors in the five project areas.
9. Connectivity corridors illustrate the best manner in which to reconnect fragments of remnant natural ecosystems identified within each of the cattle ranching landscapes analyzed. They are intended to guide the manner, order, and direction in which connectivity should be achieved to partially recover the ecological integrity and the viability of fauna and flora species. However, on-site negotiations with

farmers will result in specific designs for participating farms intersecting a connectivity corridor⁷⁰. This strategy would contribute to protect water springs, streams, rivers and wetlands, since 80 percent of those corridors would be implemented along water habitats. The recovery, use and expansion of native tree and shrub species would be promoted within the farm-adopted SPS.

10. Mechanisms to avoid perverse incentives for on-farm deforestation include: (i) PES contracts that condition annual payments to baseline conservation regarding mature forests and wetlands, to discourage their conversion to productive land uses; (ii) a PES scheme that recognizes previous conservation efforts in participating farms through a baseline payment and subsequent annual payments if maintained; (iii) highest PES levels for mature forests and wetlands; and (iv) reduced pressure on forests for farm fencing through live fences. Farmers would therefore need to ensure conservation of baseline mature forests and wetlands through project end.
11. **Pest Management (OP/BP 4.09).** The proposed project would reduce the use of pesticide and herbicide intensive techniques and would support an Integrated Pest Management (IPM) approach that includes: (a) avoiding the use or promotion of pesticides with toxic categories I or II still used in Colombia for weed control or as insecticides; (b) promoting production practices such as rotational grazing and SPS that reduce the appearance of pests and increase their natural enemies; (c) promoting the use of biological controls; (d) using animals more resistant to pests and applying products only when infestation level are critical; (e) avoiding the use of herbicides and pesticides near water sources and their contamination with pesticide residues when cleaning the equipment used; and (f) training producers, technicians, and farm workers to responsibly manage products, equipment, and containers to avoid their own contamination or that of cattle feed or produce.
12. **Indigenous peoples (OP 4.10) and Involuntary Resettlements (OP 4.12).** The selected project areas are not located near collectively-owned, Indigenous or Afro Colombian territories (see Annex 16 – map with project sites and collectively-owned territories). Furthermore, since the project would intervene farm areas already used as pastures for cattle ranching in regions that are not considered active agricultural frontiers, tensions between producers and adjacent communities over land tenure or access to natural resources are not foreseen. In addition, under no circumstance would the project undertake or support land acquisitions. The project would use legal procedures currently in force in Colombian regulations⁷¹ to verify that project farmlands are not contested and are under legal ownership. Moreover, no involuntary restriction of access to farm resources would occur, as the cattle ranchers would participate on a voluntary basis in the proposed PES contracts and define, together with CIPAV and TNC, a land use management

70 Terrestrial corridors were designed as 40 m-wide strips of land composed of 10m core strips for strict conservation uses, and buffer strips on each side that may be used for SPS implementation or secondary succession for conservation. Riparian corridors were designed along watercourses, with 5m-wide strips on each side. The specific SPS to be adopted in the corridors will depend on the conservation objects found in each (ecosystems or species with different habitat requirements) and can range from pastures with trees to live fences, among others.

71 MADR regulations for agricultural development projects apply the following:

- (i) for *private property* (where the land is exploited by its owner), ownership must be certified through a Certificate of Delivery and Unencumbered Property;
- (ii) for *bonafide possession* (where the land is exploited by its legal holder), possession must be certified through just title (purchase, donation or exchange deed, or award resolution) or in its absence, through a copy of the property tax receipts of the last two years in the holder's name, as well as a written certificate of full and undisturbed possession; and
- (iii) for *tenancy* (where the land is exploited by a tenant, a share farmer, a bailee, an usufructuary, a temporary or permanent allottee, a joint venture corporation, or a company recognized by the MADR as specializing in agricultural projects), tenancy must be certified through a copy of the property tax receipts of the last two years in the name of the Party who delivered the land for third-party use; a copy of the contract certifying the type of land tenancy, having at least a one year duration; and in the absence of a written contract, an affidavit certifying the type of land tenancy for at least one year and signed by the land owner as a witness (affidavit is valid for all types of tenancy except under temporary and permanent allotment and exploitation contracts signed with the INCODER).

plan they deem suitable for their farm and complies with PES scheme criteria. Connectivity corridors designed at the ecoregion and landscape levels would be adjusted at the farm level to account for those farms located within the corridors, but not interested in participating.

13. As SPS and related land use changes have demonstrated their contribution to reduce on-farm production costs, improve farm productivity while using less area, and increase demand for local labor in the case of iSPS, the proposed project is not expected to adversely impact sources of income or means of livelihood. Productivity indicators would be closely measured during project implementation to assess these contributions.

Social Assessment

14. **Objectives and methodology.** A social assessment was undertaken with the aim of: (i) describing socioeconomic conditions of cattle ranchers in the 5 project areas; (ii) identifying potential barriers for small and medium-scale farmer participation; and (iii) assessing potential conflicts in project areas, including mitigation measures and criteria for inclusion. Valuable information was gathered through socioeconomic surveys of sample farms in each area, four regional workshops, and semi-structured interviews with project stakeholders such as environmental authorities, producer associations, banks, universities, and NGOs. Secondary information about selected project areas was also reviewed (including data on milk and beef production, social conflicts, public order difficulties, and internal displacement), as well as the results from the RSPS Project. In addition, the core partner agencies led 5 regional workshops with local stakeholders in each area to explain the project's objectives and instruments, and obtain feedback on its proposed strategy (full social assessment report and aggregate results for the five workshops are available for consultation in project files).
15. **Characterization of potential beneficiaries.** Potential beneficiaries in the 5 regions have different socioeconomic conditions: (a) property size varies across project areas, however, 89 percent of polled farmers reported less than 200ha; (b) land occupancy is predominantly single or family ownership, where 10 percent of polled farmers, particularly in the coffee growing ecoregion, are associated to the farm as administrators or tenants; (c) residence on farms also varies across regions, where 48 percent of polled farmers reported residing elsewhere. This situation affects farmer priorities differently regarding access to basic public services, particularly in the Caribbean regions where 70 percent of polled farmers reside at the farm; (d) cattle ranching is the main productive activity (only 14 percent of polled farmers, particularly in the coffee ecoregion, have diversified their productive activities) and the main source of income for farm owners; (e) self-reported monthly income ranges between less than 1 to more than 10 legal monthly minimum wages in force (SMMLV) (at US\$216 for CY2009), where 63 percent of polled farmers reported earning less than 7 times the SMMLV; (f) most polled farmers reported having less than 15 workers on the farm; (g) 66 percent of polled farmers are adults between 40 and 60 years of age (nearly 19 percent are over 60); (h) association levels are high, as 75 percent of polled farmers indicated that they pertain to a local/regional producer association or cattle ranching committee. The Boyacá-Santander region registers the lowest levels (52 percent); and (i) 63 percent of polled farmers reported low levels of indebtedness.
16. **Public order.** The social assessment did not identify significant public order threats in selected areas, neither in its review of background/secondary information on public order disruptions resulting from the activities of illegal armed groups, nor through the farmer survey (59 percent of polled farmers feel safe in their municipality, 31 percent feel relatively safe, and 74 percent have not been the target of property extortions). Migration indicators show that nearly 37 percent of polled farmers were born in the same municipality in which the farm is located at, while 23 percent were born in a capital city. 29 percent were born in a different municipality either from the same or a different region. Selected municipalities have low levels of internal displacement over the last 10 years as per the National Register of Internally Displaced Population administered by the Presidential Agency for Social Action and International

Cooperation. Beneficiary selection in municipalities where the number of internally displaced households expelled accounts for more than 15 percent of departmental displacement levels over the last 10 years⁷² or where security-related survey questions were not answered or show that farmers do not feel as safe⁷³ would be closely analyzed by the project’s Steering Committee to ensure the exclusion of farmers with current associations to illegal armed groups.

17. **Beneficiary selection criteria.** Taking into account the results from the social assessment and criteria employed by rural legislation in force⁷⁴, the proposed project would use farm extension to classify farmer size, with the following ranges to adequately respond to regional differences:

Table 19. Farmer size classification criteria per region

Region	Small-size (ha.)	Medium-size (ha.)	Large-size (ha.)
Cesar River Valley	4 - 70	71 - 200	>200
Lower Magdalena River	4 - 70	71 - 200	>200
Boyacá - Santander ‘Andean Oak Corridor’	2 - 10	11 - 50	> 50
Coffee growing ecoregion	2 - 25	26 - 100	> 100
Low Eastern foothills of southern Meta (Ariari)	4 - 70	71 - 200	>200

18. The proposed project would adopt the following selection criteria: (i) farmer is head of household; (ii) farmer certifies legal land occupancy pursuant to Colombian rural legislation currently in force; (iii) cattle ranching is the main production activity and the main source of income for farmer; and (iv) farmer does not have pending investigations in association with illegal armed groups, as confirmed through the judicial certificate issued by the Administrative Department of Security (DAS). Inclusion would not be based on affiliation to FEDEGAN or counterpart regional/local cattle ranching associations or committees.

19. **Barriers to small and medium-scale farmer participation.** Barriers identified for small and medium-scale farmer participation are primarily related to compliance with conditions necessary to access FINAGRO’s credit lines (e.g., lack of land titles and initial capital to assume transaction costs and guarantees, not having bank accounts, being reported in financial risk centers or being over 60 years of age) and little farmer interest in becoming financial system users. Proposed mitigation measures include: (i) strengthening and expanding memberships to producer associations for collective approaches to project instruments; (ii) in the framework of the project’s Public Policy Committee, discuss with the MADR-FINAGRO any barriers encountered by small and medium-sized farmers to access FINAGRO loans and ICR to allow for flexible conditions for SPS applicants, as required; offering specific training to FINAGRO operators evaluating credit applications for SPS implementation; and consider setting up a special team within FINAGRO to focus only on small farmer applications;; (iii) considering microfinance options under recent implementation by the GoC (such as *Banca de Oportunidades*) and other institutions, or cooperative/associative credits and other loan sources such as the *Bolsa Nacional Agropecuaria* (National Agriculture and Livestock Market) or the Biotrade Fund, among others; and (iv) focusing first-year efforts on adequate outreach activities to inform farmers of SPS benefits (regional cultural aversion to trees in pastures still exist, particularly in the Caribbean), associated implementation costs, and possible funding sources. Detailed technical assessment of farm conditions is also recommended prior to interventions. In addition, linkages to rural extension programs offered by FEDEGAN (e.g., Circles of Excellence for the promotion of improved, collective cattle ranching management and fostering regional leaders and innovation) and to governmental social programs are also recommended.

⁷² These include: San Juan del Cesar, Valledupar, and Agustín Codazzi.

⁷³ These include: Génova (Quindío), Juan de Acosta, and Usiacuri.

⁷⁴ Agrarian reform legislation and MADR decrees for natural disaster aid refer to farm size, while FINAGRO uses asset value and sources of income to classify farmer size.

20. **Potential social conflicts and mitigation measures.** The risk of promoting extensive cattle ranching or conflicts with peasants or small-scale producers is assessed as non-existent, as the project’s objective is to mainstream an intensive approach to cattle ranching with active participation from small and medium-size farmers. Furthermore, since the proposed project would impact farm areas already used as pastures for cattle ranching in regions not considered to be active agricultural frontiers, tensions between producers and adjacent communities over land tenure or access to natural resources are not expected. The reputational risk assessment concluded that a moderate to non-existent risk exists of having farmers with current associations to illegal armed groups participate in the project, or having project resources captured by national or local elites. The assessment recognizes that the proposed collective project implementation (by agencies with ample experience in project management, funds administration, and recipient selection) and the targeted beneficiary selection criteria would guarantee otherwise.
21. Regional consultations identified potential conflicts with municipalities not selected for project intervention, particularly in the Eastern foothills of Meta, including dissatisfaction with the site selection approach used. In particular, environmental authorities in the different regions indicated that selection should not be based solely on satellite image-supported studies, but rather on the social and environmental realities in each area. Both concerns will have to be carefully addressed through the project’s communication strategy, highlighting: (i) positive spill-over effects from project capacity-building efforts, and (ii) the three-step methodology used which includes a final on-site assessment to adjust connectivity corridor designs in each area.
22. **Screening procedures to ensure social impact mitigation.** Screening procedures foreseen to ensure that project activities do not have adverse social impacts include:
- (i) the selection of municipalities and provinces with low levels of internal displacement over the last 10 years as per the National Register of Internally Displaced Population administered by the Presidential Agency for Social Action and International Cooperation⁷⁵;
 - (ii) the application of selection criteria requiring that all interested farmers demonstrate legal land occupancy and the absence of individual criminal records;
 - (iii) the collection of information during PY1 dissemination events with farmers and ensuing training events, to obtain data on potential beneficiaries regarding land ownership and willingness to participate, among others;
 - (iv) the verification of information on land occupancy and individual records through certificates issued by judicial authorities in Colombia and the *ex ante* grievance and redressal system. The latter includes the public display of potential beneficiary lists in each municipality for people to see and raise issues if they suspect that individuals that do not meet the criteria have been included, and the installation of complaint boxes in sites considered impartial for local inhabitants to deposit their claims regarding preliminary selection⁷⁶;
 - (v) final beneficiary selection from locally validated lists undertaken collectively by the project’s Steering Committee to avoid local or regional pressures;
 - (vi) baseline assessments undertaken in farms by CIPAV and TNC personnel accompanying FEDEGAN technicians—agencies not seen by local communities as involved with either guerrilla or paramilitary groups and therefore not preempting farmer enrollment in the project;
 - (vii) a social communications strategy that ensures local participation and feedback through:

⁷⁵ Beneficiary selection in municipalities where the number of internally displaced households expelled accounts for more than 15 percent of departmental displacement levels over the last 10 years would be closely analyzed by the project’s Steering Committee to avoid exclusion through generalization, while ensuring that farmers with current associations to illegal armed groups are not included.

⁷⁶ An arrangement could be achieved with Public Advocates or Ombudsmen in each municipality to establish or use existing formal mechanisms to make these claims.

- periodic account rendition events in each area;
- complaint boxes set up locally to deposit farmer claims regarding adverse impacts or beneficiary selection;
- campaigns through local bulletins, gazettes, or community radio stations that include instructions and addresses (electronic or mail) to formally denounce irregularities; and

(viii) Local complaints would be permanently reviewed by the project's Steering Committee to ensure early warnings are generated and corrective measures devised. Consolidated claim reports would also be examined during Bank supervision missions and MTR.

(ix) Subsequent M&E indicators and checklists to guarantee that procedures have been adequately applied would be determined in the project's Operational Manual.

23. **Participation Strategy.** First-year efforts would focus on adequate outreach activities to inform stakeholders of project strategy and SPS benefits, as well as on adjusting proposed connectivity corridors to on-site realities. Initial peer-to-peer sessions and visits to farms successfully implementing SPS would take place with potential participants identified in each area to demonstratively explain SPS benefits, discuss associated implementation costs and technologies for different ecosystems. Replication of PY1 training activities would be sought with support from local and regional cattle ranching associations/committees and TA providers. Neighboring farms not selected to participate but interested in adopting SPS would have access to training offered under the project. Consultations on project progress with key public officials and local participant representatives would take place in the framework of the project's Public Policy committee described in Annex 6, as well as in regional events described above. All project-related documents, contracts, and manuals would include clauses regarding environmental and socio-cultural safeguards, where applicable, to ensure adequate consideration of chance encounters with additional safeguards issues.

Annex 10A: Biodiversity-based methodology for site selection
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Executive Summary⁷⁷

1. The methodology for the project’s conservation designs sought to identify those critical sites for conservation and the implementation of SPS that help restore and maintain the ecological integrity of a cattle ranching landscape by protecting representative areas of remnant natural ecosystems within an ecoregion, including those associated with bodies of water, and which help restore and maintain the landscape’s structure and performance and that of its ecosystems, as well as restore and maintain viable and representative populations of species. SPS are also expected to help reduce the pressure of converting remnant natural ecosystems in productive landscapes into pastures, by making current cattle ranching production units more productive and by encouraging conservation agreements.
2. This methodology was developed in three levels or scales of analysis: the ecoregion, the landscape, and the farm. At the ecoregion and landscape levels, the most representative and ecologically viable biodiversity sites were identified, enabling the subsequent identification of key sites at the farm level where the different environmentally-friendly SPS would be implemented.
3. Consequently, the areas containing the most important biodiversity elements to restore the landscape’s ecological integrity were outlined at the ecoregion level and identified as silvopastoral nuclei (or project areas). This selection process took into account the results of previous national priority-setting exercises to identify key conservation areas (UAESPNN, Hernández et al., 1992; Fandiño and Van Wyngaarden, 2005; Ecoregional analyses ANH-IAVH-IDEAM-TNC, 2008) and focused on ecosystems underrepresented in the National Protected Areas System. These include the Andean and sub Andean forests of the Cauca and Magdalena valleys, the Andean oak forests, the Caribbean dry forests, the foothill forests of the Western mountain range, and the savannahs of the Colombian *Orinoquia*.
4. With this information, natural limits easily identifiable by the project team and the public in general were used to outline areas containing important biodiversity elements, to enable the reconnection of isolated natural ecosystem patches to nearby National Natural Parks, to allow for the restoration and reconnection of riparian ecosystems, and to favor the participation of a large number of cattle ranchers with the implementation of SPS.
5. The prioritization process using the biodiversity, production, ES, and social criteria described in Annex 10, complemented by the regional dissemination events that took place in preselected areas, resulted in the definition of five (5) silvopastoral nuclei with the following characteristics:

Table 20. Characterization of selected silvopastoral nuclei

SILVOPASTORAL NUCLEUS	Area (ha.)	Share in Natural Ecosystems (%)	No. of Ecosystems	Richness of key species (1-10)	AICAS78 it influences	National PA it influences
Cesar River Valley	387,047	24	4	7	0	0
Lower Magdalena River	146,087	25	7	7	0	0
Boyacá - Santander ‘Andean Oak Corridor’	163,675	64	9	8	3	1
Coffee growing ecoregion	698,075	32	7	6	7	3
Low Eastern foothills of southern Meta	324,012	27	7	6	1	1

⁷⁷ Full report in Spanish by TNC is included in project files.

⁷⁸ Areas of Importance for Bird Conservation.

6. Once the silvopastoral nuclei were outlined at the ecoregion level, a landscape analysis was undertaken to develop a reconnection proposal for the remnant natural ecosystem fragments found within each nucleus, to enable the restoration of part of its ecological integrity and the viability of fauna and flora species.
7. The reconnection proposal (known as connectivity corridor) illustrates the best manner in which to potentially reconnect fragments of remnant natural ecosystems within a silvopastoral nucleus. The connectivity corridor should not be understood as the final design for the on-site implementation of SPS, as this would take place at the farm level and in agreement with farm owners. Connectivity corridors are intended to guide the manner, order, and direction in which to reconnect fragments, but may suffer changes in their layout at the time of their implementation on-site, without disregarding their overall purpose.
8. Different types of SPS may be implemented in each corridor (e.g., pastures with trees, cuttings for cattle grazing, live fences). Each system would contribute to the conservation or restoration of certain biodiversity elements. The type of SPS chosen would depend on the conservation objects present, the type of ecosystem or species found and their different habitat requirements. Emphasis has been placed on the conservation of ecosystems along water courses (riparian forests, forests surrounding water springs or streams).
9. Connectivity corridors were modeled with GIS tools under the following assumptions: i) the closer the fragments of remnant natural ecosystems are, the easier they are to reconnect; ii) connectivity corridors along water courses (riparian corridors) will be prioritized; iii) the network of corridors between isolated fragments seeks to reconnect them to greater patches with little fragmentation (e.g. National or Regional Parks); iv) the shortest potential connectivity corridor will always be chosen; and v) for the reconnection to be viable at the landscape level, conservation agreements over fragments of remnant natural ecosystems would be reached with farm owners.
10. The following table is the result of the connectivity corridor modeling, considering that terrestrial corridors were designed as 50m-wide strips of land composed of 10m core strips for strict conservation purposes and buffer strips for different SPS implementation. Riparian corridors were designed as 30m-wide core conservation strips containing water courses, where SPS would be implemented outside. The estimated area to be converted or restored is:

Table 21. Area to converted or restored in connectivity corridors

SILVOPASTORAL NUCLEUS	Area (ha.)	Area with Natural Ecosystems (ha.)	Length of potential Terrestrial corridors (km)	Length of potential Riparian corridors (km)	Length of water courses (km)	Total Corridor Area (ha.)	Area for restoration of other riparian vegetation (ha)
Cesar River Valley	387,047	92,025	50	301	1,266	1,504	965
Lower Magdalena River	146,087	35,944	32	114	629	648	515
<i>Boyacá - Santander</i>	163,675	104,590	28	136	435	712	299
Coffee growing ecoregion	698,075	225,794	63	385	2,625	1,918	2,240
Low Eastern foothills of southern Meta	324,012	88,989	116	225	1,140	1,596	915
Total	1,718,896	547,343	289	1,161	6,095	6,378	4,934

11. Finally, the analysis at the farm scale consists of designing, implementing, and monitoring the effects of SPS on biodiversity along the connectivity corridors identified at the landscape level. This will be undertaken as part of the project's M&E.

12. Given the scale at which these connectivity corridors were generated, they may cover several km. within a farm or across various farms in the area. In the same manner, when implementing SPS along a connectivity corridor, one or several silvopastoral technological packages may be needed according to the characteristics of the area, its geographical features, the landscape elements such as streams or rivers, or the characteristics of the farm itself. At the time of implementing the SPS, these on-site factors will require a design for each participating farm that intersects a connectivity corridor, which may deviate from the precise layout of the corridor at the landscape level, without altering its overall purpose.
13. The farm-level analysis will provide information on the areas required for SPS conversion and for a land use planning design in each participating farm. This analysis will also serve to monitor progress in the implementation of ha of adopted SPS.
14. A detailed description of each project area is found in summary tables included in the full report by TNC (see project files).

**Annex 11: Project Preparation and Supervision
COLOMBIA: Mainstreaming Sustainable Cattle Ranching**

	Planned	Actual
PCN review	06/27/07	06/27/07
Initial PID to PIC	07/25/07	07/25/07
Initial ISDS to PIC	09/21/07	09/24/07
Appraisal	Q2FY08	Q1FY10
Negotiations	Q2FY08	Q1FY10
Board/RVP approval	Q4FY08	Q2FY10
Planned date of effectiveness	Q1FY09	Q3FY10
Planned date of mid-term review	Q3FY12	Q4FY12
Planned closing date	Q1FY14	Q3FY14

Key institutions responsible for preparation of the project:

- Center for Research on Sustainable Agricultural Production Systems (CIPAV)
- Colombian Cattle Ranching Association (FEDEGAN)
- The Nature Conservancy, Colombia (TNC)
- Environmental and Childhood Action Fund (FPAA)

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Juan Pablo Ruiz	Sr. Natural Resource Mgmt Specialist	LCSEN
Natalia Gomez	Rural Development Specialist	LCSAR
George Ledec	Lead Ecologist	LCSEN
Stefano Pagiola	Sr. Environmental Economist	LCSSD
Pilar Larreamendy	Sr. Social Development Economist	LCSSO
Nicole A. Maywah	Consultant, Environmental Sp.	LCSAR
Cornelis de Haan	Consultant	ARD
Monica Rodriguez	Consultant	LCSEN
Adriana Soto	Consultant	LCSEN
Brenna E. Vredeveld	Junior Professional Associate	LCSSD
Gabriel Peñaloza	Procurement Analyst	LCSPT
Claudia Mylenna Cardenas	Consultant	LCSFM

Bank funds expended to date on project preparation:

1. Bank resources: \$0
2. Trust funds: \$90,000 (BBGEF)
3. Total: \$90,000

Estimated Approval and Supervision costs:

1. Remaining costs to approval: \$15,000
2. Estimated annual supervision cost:\$60,000

Annex 12: Documents in the Project File

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

1. Environmental Assessment with TNC report on biodiversity-methodology for site selection
2. Social Assessment
3. Institutional Assessment
4. Reputational Risk Assessment
5. Consolidated results from regional project dissemination events

Annex 13: Statement of Loans and Credits
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

As of Date 05/21/2009

Project ID	Project Name	Original Amount in US\$ Millions					Difference Between Expected and Actual Disbursements ^{a/}	
		IBRD	IDA	GRANT	Cancel.	Undisb.	Orig.	Frm Rev'd
P096965	CO (APL1) La Guajira Water and Sanit.	90,0				90,0	41,7	
P082908	CO (APL2) Rural Education APL II	40,0				39,0	5,5	
P088857	CO (CRL2) TAL to support the 2nd PSAL	2,0				0,1	0,1	
P082167	CO Agricultural Transition Project	30,0				3,7	(0,5)	
P074726	CO Bogota Urban Services Project	130,0				33,5	3,5	
P044140	CO CARTAGENA WTR SUPPLY & SEWERAGE ENV.	159,4			74,38	6,3	6,3	6,3
P113084	CO Disaster Risk Mgmt CAT DDO	150,0				150,0		
P083075	CO GEF Integrated National Adaptation			5,4		2,8	2,5	1,4
P091932	CO GEF National Protected Areas TF			15,0		7,0	0,4	
P040109	CO PUBLIC FINANC. MANAGEMENT PROJECT II	35,5				0,4	0,4	
P101211	CO Second Social Safety Net Project	636,5				563,5	(73,0)	
P099139	CO Strength. Public Info, M&E for RMgmt.	8,5				8,5	(0,0)	
P082520	CO Sustainable Development Inv Project	7,0				0,8	0,7	
P065937	CO WATER SECTOR REF ASSISTANCE PROJECT	40,0				4,3	4,3	
P052608	CO- Antioquia Secondary Education Projec	20,0				19,5	4,3	
P105164	CO-(APL)Second Student Loan Support Proj	300,0				231,1	64,4	
P082429	CO-(APL1)Disaster VulnerabilityReduction	260,0				209,5	29,8	
P085727	CO-(APL2) Disaster Vulnerability Reduct.	80,0				73,9	66,8	63,6
P104567	CO-Second Rural Productive Partnerships	30,0				24,2	(0,7)	
Overall Result		2.018,9		20,4	74,38	1.467,9	156,4	71,3

IFC Held and Disbursed Portfolio As of 04/30/2009 (In USD Millions)											
FY Approval	Company	Committed					Disbursed Outstanding				
		Loan	Equity	**Quasi Equity	*GT/RM	Partici pant	Loan	Equity	**Quasi Equity	*GT/RM	Partici pant
2009	Abocol	30	-	-	-	-	30	-	-	-	-
2009	Avianca	35	-	15	-	-	-	-	15	-	-
0	Bancamia	3,42	-	-	-	-	3,42	-	-	-	-
0/02/06	Bcsc	0	25,03	-	-	-	-	25,03	-	-	-
2008	Bogota muni	45	-	-	-	-	-	-	-	-	-
0	Capital_bolivar	0	6,78	-	-	-	-	6,78	-	-	-
0/04/07	Cartones america	31,18	-	-	-	-	30,42	-	-	-	-
2004/06	Carvajal s.a.	78,44	-	30,34	-	-	28,44	-	29,57	-	-
2009	Century energy	6,45	-	1,2	-	-	3,15	-	1,2	-	-
2008	Cga	60,98	1,35	30,83	-	120,72	60,98	1,35	19,26	-	70,54
2001	Chmc	0	11,12	-	3,48	-	-	6,3	-	-	-
07/06/2003	Davivienda i	0	100	65	-	100	-	97	65	-	100
2008	Finandina	0	10,1	-	-	-	-	10,1	-	-	-
2006	Fundacion social	24,14	-	17,01	-	-	24,14	-	17,01	-	-
2009	Greystar	0	9,48	-	-	-	-	9,48	-	-	-
0	Guanaquitas	6,55	-	1,3	-	-	1,84	-	1,3	-	-
2006	Interbolsa	0	4,53	-	-	-	-	4,53	-	-	-
2007	Kappa	20	10	-	-	-	10	-	-	-	-
2008	Muelles el bosqu	13,65	-	-	-	-	13,65	-	-	-	-
2007	Procafecol	0	14,15	-	-	-	-	6,15	-	-	-
2002	Proteccion	0	4	-	-	-	-	4	-	-	-
0	Seguros_bolivar	0	37,85	-	-	-	-	37,85	-	-	-
2007	Sodimac colombia	33,48	-	-	-	-	33,48	-	-	-	-
2008	Tecnoquimicas	0	25	-	-	-	-	25	-	-	-
2008	Tribeca fund i	0	15	-	-	-	-	-	-	-	-
0	Wwb cali	5,06	-	-	-	-	5,06	-	-	-	-
0	Wwb popayan	3,37	-	-	-	-	3,37	-	-	-	-
Total Portfolio:		396,72	274,39	160,68	3,48	220,72	247,95	233,57	148,34	0	170,54

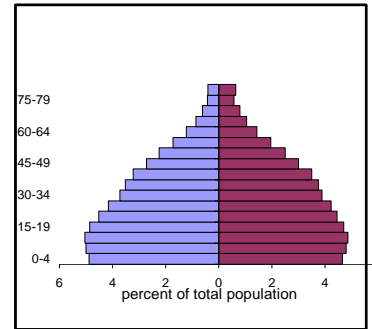
* Denotes Guarantee and Risk Management Products.

** Quasi Equity includes both loan and equity types.

Annex 14: Country at a Glance

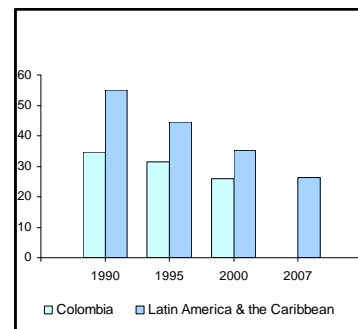
COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Key Development Indicators	Colombia	Latin America & Carib.	Lower middle income
(2008)			
Population, mid-year (millions)	44,5	561	3.435
Surface area (thousand sq. km)	1.142	20.421	35.510
Population growth (%)	1,2	1,2	1,0
Urban population (% of total population)	74	78	42
GNI (Atlas method, US\$ billions)	180,4	3.252	6.543
GNI per capita (Atlas method, US\$)	4.100	5.801	1.905
GNI per capita (PPP, international \$)	8.260	9.678	4.585
GDP growth (%)	2,5	5,7	10,2
GDP per capita growth (%)	1,3	4,4	9,1

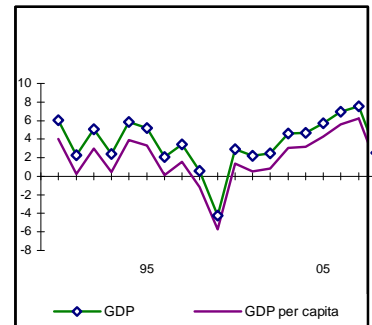


(most recent estimate, 2003–2008)

Poverty headcount ratio at \$1.25 a day (PPP, %)	16	8	..
Poverty headcount ratio at \$2.00 a day (PPP, %)	28	17	..
Life expectancy at birth (years)	73	73	69
Infant mortality (per 1,000 live births)	17	22	38
Child malnutrition (% of children under 5)	5	4	25
Adult literacy, male (% of ages 15 and older)	92	92	88
Adult literacy, female (% of ages 15 and older)	93	90	77
Gross primary enrollment, male (% of age group)	117	120	112
Gross primary enrollment, female (% of age group)	115	116	109
Access to an improved water source (% of population)	93	91	88
Access to improved sanitation facilities (% of population)	78	78	55



Net Aid Flows	1980	1990	2000	2008 ^a
<i>(US\$ millions)</i>				
Net ODA and official aid	90	89	187	731
<i>Top 3 donors (in 2007):</i>				
United States	-14	-19	105	404
European Commission	0	5	15	74
Spain	..	7	13	64
Aid (% of GNI)	0,3	0,2	0,2	0,4
Aid per capita (US\$)	3	3	5	17
Long-Term Economic Trends				
Consumer prices (annual % change)	26,4	32,4	8,7	7,7
GDP implicit deflator (annual % change)	27,6	26,1	25,9	7,7
Exchange rate (annual average, local per US\$)	47,3	502,3	2.087,9	1.967,7
Terms of trade index (2000 = 100)	..	..	100	132
Population, mid-year (millions)	27,2	33,2	39,8	44,5
GDP (US\$ millions)	33.399	40.274	94.053	242.268
<i>(% of GDP)</i>				
Agriculture	19,9	16,7	10,4	8,6
Industry	32,5	37,9	29,8	36,5
Manufacturing	23,9	20,6	15,4	16,2
Services	47,6	45,4	59,9	54,8
Household final consumption expenditure	70,2	66,4	66,9	63,1
General gov't final consumption expenditure	10,1	9,4	18,9	16,4
Gross capital formation	19,1	18,5	15,7	24,3
Exports of goods and services	16,2	20,6	17,4	18,3
Imports of goods and services	15,6	14,8	18,9	22,0
Gross savings	19,6	21,6	13,5	18,7



1980–90 1990–2000 2000–08 (average annual growth %)

Population, mid-year (millions)	2,0	1,8	1,4
GDP (US\$ millions)	3,7	2,8	4,9
<i>(% of GDP)</i>			
Agriculture	2,9	-2,6	3,0
Industry	5,0	1,5	4,9
Manufacturing	3,5	-2,5	5,3
Services	3,1	16,0	4,8
Household final consumption expenditure	3,0	1,7	4,5
General gov't final consumption expenditure	4,2	10,5	4,3
Gross capital formation	1,4	2,0	13,3
Exports of goods and services	7,5	5,3	5,9
Imports of goods and services	0,4	9,0	11,2

Note: Figures in italics are for years other than those specified. 2008 data are preliminary. .. indicates data are not available.

a. Aid data are for 2007.

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Development Economics, Development Data Group (DECDG).

Balance of Payments and Trade **2000** **2008***(US\$ millions)*

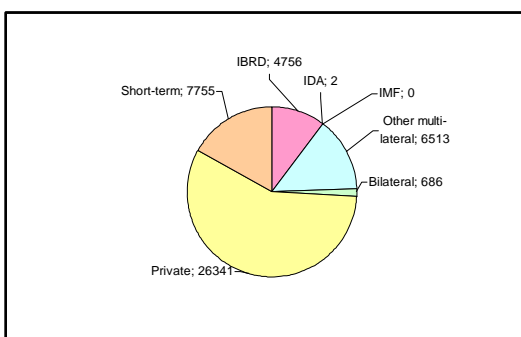
Total merchandise exports (fob)	13.115	37.095
Total merchandise imports (cif)	11.564	39.669
Net trade in goods and services	1.185	-2.139
Current account balance	770	-6.761
as a % of GDP	0,8	-2,8
Workers' remittances and compensation of employees (receipts)	1.610	4.842
Reserves, including gold	9.006	23.670

Central Government Finance*(% of GDP)*

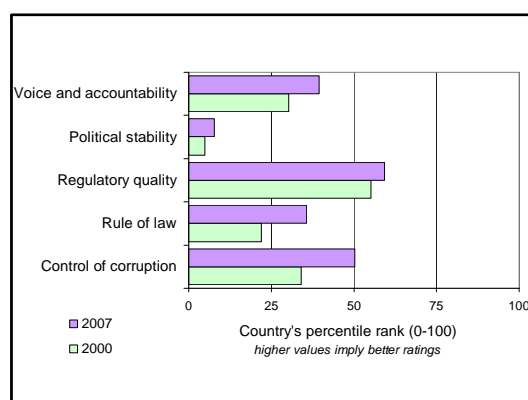
Current revenue (including grants)	25,4	31,3
Tax revenue	15,4	23,4
Current expenditure	22,0	26,3
Overall surplus/deficit	-6,6	-1,0
Highest marginal tax rate (%)		
Individual	35	22
Corporate	35	33

External Debt and Resource Flows*(US\$ millions)*

Total debt outstanding and disbursed	33.930	46.053
Total debt service	5.105	9.028
Debt relief (HIPC, MDR)	-	-
Total debt (% of GDP)	36,1	22,2
Total debt service (% of exports)	28,7	22,3
Foreign direct investment (net inflows)	2.395	10.563
Portfolio equity (net inflows)	17	...

**Private Sector Development** **2000** **2008**

Time required to start a business (days)	-	36
Cost to start a business (% of GNI per capita)	-	14,1
Time required to register property (days)	-	23
Ranked as a major constraint to business (% of managers surveyed who agreed)	2000	2007
Anticompetitive or informal practices	..	34,5
Crime	..	13,0
Stock market capitalization (% of GDP)	10,2	49,1
Bank capital to asset ratio (%)	11,2	11,4

**Technology and Infrastructure** **2000** **2007**

Paved roads (% of total)	14,4	..
Fixed line and mobile phone subscribers (per 100 people)	24	95
High technology exports (% of manufactured exports)	7,7	2,9

Environment

Agricultural land (% of land area)	40	38
Forest area (% of land area)	54,9	54,7
Nationally protected areas (% of land area)	..	74,4
Freshwater resources per capita (cu. meters)	51.402	48.014
Freshwater withdrawal (billion cubic meters)	10,7	..
CO2 emissions per capita (mt)	1,4	1,4
GDP per unit of energy use (2005 PPP \$ per kg of oil equivalent)	9,3	11,0
Energy use per capita (kg of oil equivalent)	689	695

World Bank Group portfolio **2000** **2007***(US\$ millions)*

IBRD		
Total debt outstanding and disbursed	1.920	4.756
Disbursements	266	564
Principal repayments	242	432
Interest payments	126	256
IDA		
Total debt outstanding and disbursed	7	2
Disbursements	0	0
Total debt service	1	1
IFC (fiscal year)		
Total disbursed and outstanding portfolio of which IFC own account	107	557
Disbursements for IFC own account	84	457
Portfolio sales, prepayments and repayments for IFC own account	20	26
MIGA		
Gross exposure	97	62
New guarantees	0	0

Note: Figures in italics are for years other than those specified. 2008 data are preliminary.
 .. indicates data are not available. - indicates observation is not applicable.

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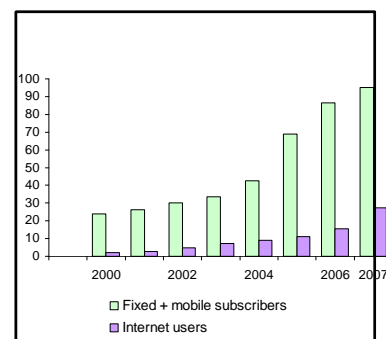
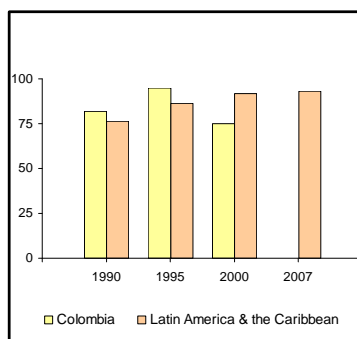
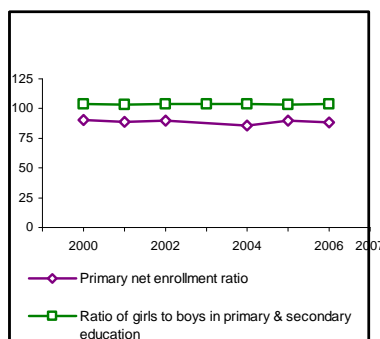
Development Economics, Development Data Group (DECDG).

Millennium Development Goals

Colombia

With selected targets to achieve between 1990 and 2015
(estimate closest to date shown, +/- 2 years)

	Colombia			
	1990	1995	2000	2007
Goal 1: halve the rates for extreme poverty and malnutrition				
Poverty headcount ratio at \$1.25 a day (PPP, % of population)	..	13,5	16,8	16,0
Poverty headcount ratio at national poverty line (% of population)	..	60,0	64,0	..
Share of income or consumption to the poorest quintile (%)	3,4	3,2	2,6	2,9
Prevalence of malnutrition (% of children under 5)	..	6,3	4,9	5,1
Goal 2: ensure that children are able to complete primary schooling				
Primary school enrollment (net, %)	68	..	90	88
Primary completion rate (% of relevant age group)	71	84	92	107
Secondary school enrollment (gross, %)	50	61	69	85
Youth literacy rate (% of people ages 15-24)	95	96	97	97
Goal 3: eliminate gender disparity in education and empower women				
Ratio of girls to boys in primary and secondary education (%)	108	..	104	104
Women employed in the nonagricultural sector (% of nonagricultural employment)	44	45	49	48
Proportion of seats held by women in national parliament (%)	5	12	12	8
Goal 4: reduce under-5 mortality by two-thirds				
Under-5 mortality rate (per 1,000)	35	31	26	21
Infant mortality rate (per 1,000 live births)	26	24	20	17
Measles immunization (proportion of one-year olds immunized, %)	82	95	75	88
Goal 5: reduce maternal mortality by three-fourths				
Maternal mortality ratio (modeled estimate, per 100,000 live births)	..	..	..	130
Births attended by skilled health staff (% of total)	82	86	86	96
Contraceptive prevalence (% of women ages 15-49)	66	72	77	78
Goal 6: halt and begin to reverse the spread of HIV/AIDS and other major diseases				
Prevalence of HIV (% of population ages 15-49)	0,1	0,3	0,5	0,6
Incidence of tuberculosis (per 100,000 people)	63	57	51	45
Tuberculosis cases detected under DOTS (%)	..	..	87	83
Goal 7: halve the proportion of people without sustainable access to basic needs				
Access to an improved water source (% of population)	89	90	91	93
Access to improved sanitation facilities (% of population)	68	71	74	78
Forest area (% of total land area)	55,4	..	54,9	54,7
Nationally protected areas (% of total land area)	..	..	..	74,4
CO2 emissions (metric tons per capita)	1,7	1,6	1,4	1,4
GDP per unit of energy use (constant 2005 PPP \$ per kg of oil equivalent)	8,1	8,4	9,3	11,0
Goal 8: develop a global partnership for development				
Telephone mainlines (per 100 people)	7,3	10,6	18,1	18,0
Mobile phone subscribers (per 100 people)	0,0	0,8	5,7	77,2
Internet users (per 100 people)	0,0	0,2	2,2	27,5
Personal computers (per 100 people)	0,9	1,7	3,8	8,0



Note: Figures in italics are for years other than those specified. .. indicates data are not available.
Development Economics, Development Data Group (DECDG).

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Annex 15: Incremental Cost Analysis

COLOMBIA: Mainstreaming Sustainable Cattle Ranching

Business-as-usual scenario

1. Notwithstanding their on and off-farm benefits, Silvopastoral Production Systems (SPS) have only been adopted to a limited extent in Colombia. The cost of the business-as-usual scenario is US\$35 M. Under the baseline project, there would likely be a gradual adoption of a few SPS—those that are highly profitable for farmers even without outside support. Despite their profitability, however, their adoption would be constrained by their high initial cost and their technical complexity, and would be limited to large-scale farmers who can assume the related expenses. It is expected that FEDEGAN would proceed with the provision of appropriate TA to farmers, and seek to facilitate access to credit to finance the required investments⁷⁹, but this process would be slower than it might be with GEF support because of more limited resources to train trainers, and because of lower overall support from other stakeholders.
2. Absence of GEF financing would jeopardize the feasibility of the proposed project, as important cofinanciers could decide to no longer participate without GEF involvement. Under the baseline project, therefore, most of the activities of component 1 would likely proceed, but at a slower pace. This would result in some improvements in biodiversity levels in production landscapes, compared to the present conditions, but these improvements would be limited and would take time to develop. FEDEGAN-led initiatives would primarily promote the SPS most profitable for farmers, such as mixed fodder banks and improved pastures with high density *Leucaena*, already supported by the Ministry of Agriculture's ICR. Finally, some of the Component 1 activities, such as analyses to develop market-based instruments such as eco-certification for biodiversity-friendly production processes, would probably not be undertaken at all.
3. As described in Annex 1, the results of the RSPS Project have clearly demonstrated that many of the most environment-friendly SPS would likely not be adopted without either short-term or, in some cases, long-term payments for their environmental services. As demonstrated in the RSPS Project, complementary payments are needed to balance the mix of land uses adopted by farmers towards the more environment-friendly SPS and to help fill geographic biodiversity gaps where conservation is particularly important, but SPS are not sufficiently profitable on their own. Such payments cannot occur, however, in the absence of donors such as GEF. In the baseline project, therefore, it is very unlikely that any of these highly-biodiversity friendly practices would be adopted to any significant degree. Although other donors are also supporting these efforts as co-financers of the GEF project, they may not proceed with their support in the absence of the GEF project. Even if they did, they would most likely be much less effective if they could not take advantage of the considerable expertise in this area that the GEF and the World Bank as its implementing agency have accumulated. They would also focus on a much smaller areas, and thus would be unlikely to provide a solid basis for

⁷⁹ FEDEGAN entered into an agreement with FINAGRO to better integrate the offer of credit lines with TA for cattle ranching, including for SPS adoption. Under this agreement, 19 FINAGRO-funded loans have been awarded for the implementation of SPS in farms which benefit from FEDEGAN's assistance. In addition, since the adoption of the ICR subsidizing loans for the implementation of intensive SPS with specific tree species (timber and fodder) and densities (at least 1 timber tree for every 10 fodder trees for projects up to 50 ha), 29 applications have been received by FINAGRO. 8 have already reimbursed US\$0.3M for recipient farmers, subsidizing 40 percent of their credit cost (FEDEGAN-FINAGRO 2009). Finally, FEDEGAN has sponsored ten small-scaled research projects assessing species and arrangements for SPS implementation in different farm models and regions.

future national-scale efforts⁸⁰. Thus very few of the activities envisaged under component 2.1 (implementation of a short-term PES mechanism to increase connectivity and reduce land degradation in agricultural landscapes) would be undertaken in the baseline project.

4. Likewise, the activities envisaged under component 2.2 (design and implementation of local long-term PES mechanisms financed by water users) would be probably not be undertaken in the baseline. Individual water users would be unable to undertake them themselves without financial support for the initial costs involved and technical assistance. TNC would likely proceed with support to a single such mechanism in the Valle del Cauca, but this single example would also provide an inadequate basis for future scaling up.
5. The activities planned for component 3 (institutional strengthening, dissemination, and M&E efforts contributing to the future widespread adoption of biodiversity-friendly SPS) would likely not be undertaken at all.
6. Thus the baseline project would likely involve expenditures of about US\$35 million, and would result in some improvement in biodiversity levels, but substantially less than is possible. Based on the results of the RSPS Project, the most widely adopted practices would likely be improved pasture with low density trees (0.3 biodiversity points out of a possible 1.0) and, to a lesser extent because of their establishment cost, intensive *Leucaena* (0.6 biodiversity points out of a possible 1.0). Practices that are particularly valuable because of their high biodiversity levels and role in increasing connectivity, such as riparian forests (0.8 points) would likely not see any significant adoption. Moreover, these improvements would take longer to occur. The likelihood that the country would be able to scale up efforts to adopt biodiversity-friendly SPS at the national scale would be substantially reduced.

GEF Alternative Scenario

7. The cost of the GEF alternative scenario is US\$42 M. The will support a strategy that better responds to conditions on the ground; generates a mix of land uses that provides higher levels of environmental services; and better ensures the sustainability of land uses that are particularly environmentally valuable. The GEF alternative would safeguard important biodiversity in five regions⁸¹ selected for their high levels of globally important biodiversity, their proximity to strategic ecosystems and protected areas, and their importance in national plans to combat desertification.
8. The GEF alternative will incentive SPS in cattle ranching landscapes close to PAs thus enabling PA and SPS biodiversity protection outcomes to reinforce one another and lead to stronger eco-regional biodiversity protection.
9. GEF resources will induce adoption of SPS in areas where they might not otherwise have been adopted, particularly by small and medium-scale farmers. Throughout the project, GEF support will address barriers for SPS adoption, specifically those related to lack of knowledge of SPS existence, SPS high initial cost and technical complexity.

⁸⁰ The results of the GEF *Regional Silvopastoral Project* have provided the basis for the pilot projects that Core partner agencies have undertaken to promote the adoption of intensive SPS and live fences in cattle ranching farms. These include: (i) three CIPAV initiatives for research and technology transfer; (ii) four FPAA-sponsored initiatives to promote sustainable development agreements with rural communities, including through the adoption of SPS in nearly 260 cattle ranching farms; and (iii) one TNC initiative with partners *Fundación Natura* and the USAID Parks-in-Peril project to provide 24 farmers with the economic incentives and practical tools to implement new technologies. These initiatives, however, fail to engage key actors in the subsector's development such as FEDEGAN and the Ministries of Agriculture and Environment to ensure the broader adoption of environment-friendly cattle ranching production systems.

⁸¹ Cesar and Magdalena River; Boyacá-Santander; the coffee-growing ecoregion and the southern Meta region

10. The differentiated approach adopted under this project includes: (i) the provision of farmer training and technical assistance for SPS adoption; ii) support to access financial resources for SPS adoption namely, but not limited to, attractively-priced loans already in place for the adoption of intensive SPS from the GoC's second-tier bank FINAGRO; (iii) short-term PES for SPS that offer clear economic returns in the mid to long-term and are privately profitable once established in order to compensate for the initial investment costs; and (iv) long-term PES for SPS that provide high levels of environmental services but are not very privately profitable.
11. GEF support will strengthen capacity building activities. The GEF alternative scenario will enable an active involvement of key stakeholders, such as TNC and CIPAV, in the training process of existing regional TA providers such as TECNIGANS. GEF will provide resources for extensive training to TECNIGANS and other TA providers on SPS financing, implementation and management; the establishment of GPEP and the implementation of an Integrated Pest Management (IPM) approach. TA providers will play a key role in facilitating knowledge transfer to increase public awareness about the benefits of SPS in sustainable cattle ranching and to ensure an effective and broader SPS adoption by farmers.
12. The GEF alternative scenario also allows a confidence-building process in small and medium farmers regarding SPS. This GEF project will promote participation from farms, interested neighboring farms and affiliates of cattle ranching associations in local workshops and peer-to-peer sessions, as well as visits to farms that are successfully implementing SPS in each area. Farmers who share knowledge that they receive through TA with their peers and broader networks, help to disseminate production practices to a wider audience than would be possible with the extension services alone. Also, visits to farms already implementing SPS proved fundamental under the RSPS Project, as small and medium-scaled farmers were able to see that larger rural entrepreneurs also opted for SPS as an enhanced production strategy. GEF support will help raise awareness on and support small and medium farmers to overcome barriers to access exiting loans and credit facilities for the adoption of intensive SPS. Conversion to SPS will increase local environmental awareness and will help turn farmers into sustainable development agents.
13. GEF support would help to further improve biodiversity in ways that the baseline project would never be able to. GEF support would change the mix of SPS to include a greater share of the more environment-friendly practices. The lack of long-term funding sources in the scenario without GEF would limit the possible land use changes to those whose adoption could be induced with short-term, one-time actions. The short and long-term PES mechanisms supported by the project, along with supplementary certification analyses and agrotourism efforts, would provide funding flows to support sustained long-term adoption of environment-friendly land uses.
14. From the biodiversity conservation perspective, the approach of supporting improvements in production landscapes would be substantially less costly than a traditional conservation approach. Under the approach of the proposed project, the incremental cost is limited to the difference between the net on-farm returns of traditional practices and the net on-farm returns of SPS, whereas in a traditional conservation approach the incremental cost would be the full net on-farm returns of traditional practices. Where long-term compensation is required, GEF support for PES mechanisms (under which the long-term costs will be borne primarily by water users) and other potential market-based instruments would provide the required funding flows.
15. The proposed project would contribute to the Strategic Objectives of the GEF Biodiversity and Land Degradation Programs seeking to mainstream biodiversity conservation in production landscapes and sectors, and upscale sustainable land management investments that generate mutual benefits for the

global environment and local livelihoods, respectively. The project would contribute to the following indicators being applied by the GEF Programs: (i) coverage in hectares of production systems that contribute to biodiversity conservation or the sustainable use of its components; (ii) coverage in hectares under environmental service schemes; (iii) the integration of biodiversity aspects into sector policies and plans at a national level; and (iv) improved livelihoods as achieved through targeted interventions.

16. During project preparation, GEF support has catalyzed the integration of public and private efforts aimed at sustainable sector management. The prospective GEF investment has enhanced FEDEGAN's dialogue with the national and regional environmental authorities, and environmental NGOs such as TNC and the FPAA—stakeholders that would not otherwise have been actively engaged in the cattle ranching subsector's modernization. The GEF alternative scenario will allow, from the project start, outreach activities to inform the SPS scheme and encourage participation of different audiences (TA providers, farmers, ES users, planning, environmental, rural and financing sectors, national-policy-makers and regional/local authorities). This communication strategy will help disseminate lessons learned in the SPS adoption process.

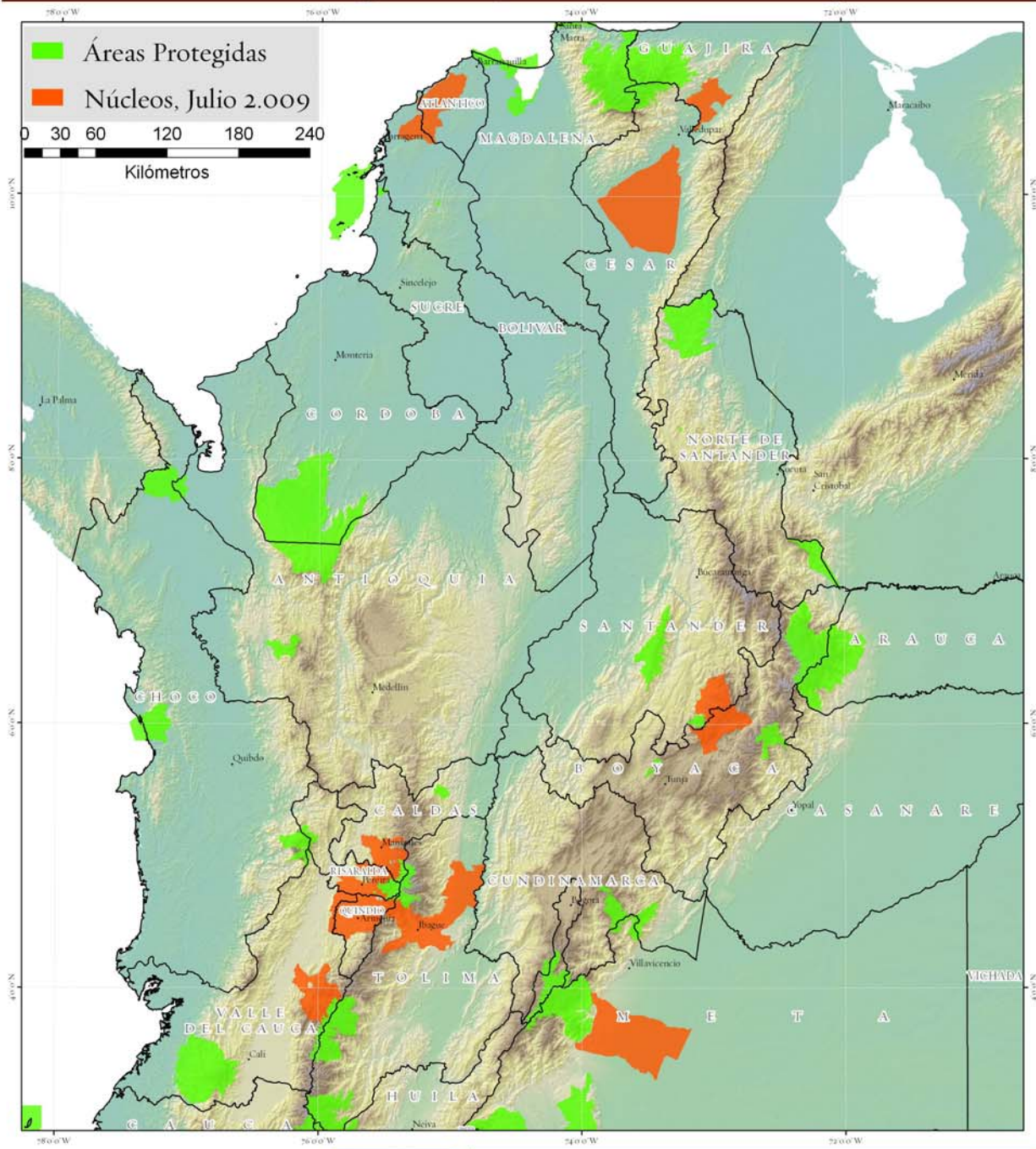
INCREMENTAL COST MATRIX

Component, Cost Category	US\$ M	Domestic Benefit	Global Benefit
1. Improving productivity in participating cattle ranching farms in project areas through SPS			
Business-as-usual	29.2	Large-scale famers accessing funds mainly for productivity increase. Low adoption of SPS (limited to only those highly profitable but not necessarily the most environment-friendly and to large-scale farmers who can assume the related expenses) due to: -Limited resources to train trainers -Poor dissemination of SPS technical requirements and profitability, -Limited support to access credit to finance required investments	Few global benefits, as funds would be mainly directed to favor farmer profitability at the expense of biodiversity & carbon benefits
GEF Alternative	30.9	Small and medium-scaled farmers better equipped to access financial resources to overcome initial costs of SPS adoption. Farmer training and technical assistance enabling small, medium and large-scale farmers to efficiently implement intensive SPS, including more environment-friendly SPS. Natural resource management improves in participating farms Productivity increases in participating farms with reduction of outside inputs Increase demand for local labor for SPS implementation	Intensive SPS implemented at a larger scale and in areas where they would otherwise not be adopted, providing some biodiversity and carbon ES services Rapid restoration of soil fertility; high conservation of fragile slope terrains; avoided soil compacting, and wind & water erosion
Increment	1.7		
2. Increasing connectivity between ecosystems and reducing land degradation in participating cattle ranching farms, through differentiated PES schemes			
Business-as-usual	2.7	Limited land use changes towards highly-biodiversity friendly practices due to lack of PES mechanisms No connectivity corridors implemented in	No global benefits as lack of complementary payments will limit scale-up efforts and long term adoption of environment-friendly land uses

		selected areas No long-term payments from water and other ES users to induce the adoption of land uses that are highly attractive from a biodiversity and anti-erosion perspective, but are less profitable for farmers.	Land degradation in areas where biodiversity conservation is particularly important for the provision of key ES.
GEF Alternative	6.5	PES promoting greater share of environment-friendly SPS PES mechanisms providing long-term funding flows for most biodiversity-friendly SPS in at least 2 areas. Protected water springs and streams in intervened areas	Land use changes providing stronger eco-regional biodiversity protection in five target regions selected for their high levels of globally important biodiversity and proximity to strategic ecosystems and PA Enhanced connectivity of remnant natural ecosystems improving habitat conditions. Globally important plant species used/conserved in cattle ranching farms Enhanced globally strategic ecosystems resilience to climate change impacts Enhanced resilience to hurricanes and other extreme climatic events through complex live fences or wind barriers Reduced soil erosion in 2 pilot areas
Increment	3.8		
3. Strengthening subsector institutions and dissemination and M&E efforts contributing to the broader adoption of environment-friendly SPS in Colombian cattle ranching			
Business-as-usual	0.7	Few alliances promoted for the broader adoption of environment-friendly land uses.	Limited global benefits resulting from isolated, small-scaled initiatives
GEF Alternative	1.5	Strategic alliances consolidated with key public and private, national and regional entities for the implementation of proposed project instruments. SPS contributions to climate change mitigation and adaptation providing input to national climate change frameworks, particularly REDD strategies ⁸²	Increased M&E and dissemination capacities leading to improvements in SPS implementation in cattle ranching under different geographic conditions and ecosystem types Integration of environmentally friendly SPS practices into climate change and biodiversity conservation sector policies and plans at a national level
Increment	0.8		
4. Project management			
Business-as-usual	2.4	None	None
GEF Alternative	3.1	FEDEGAN's technical capacity to promote SPS enhanced	
Increment	0.7		
Total			
Business-as-usual	35		
GEF Alternative	42		
Increment	7.0		

⁸² As project M&E progresses, SPS would be promoted to be included and financed under the National REDD strategy (under formulation by the MAVDT), in the framework of the Public Policy Committee.

Proyecto
GANADERIA COLOMBIANA SOSTENIBLE
 Mainstreaming Biodiversity in Sustainable Cattle Ranching



Núcleos Silvopastoriles y Áreas Protegidas
 Nacionales
 Julio de 2.009
 Cartografía Base Fuente IGAC 2.008 - 2.009



Applying the GEF Tracking Tools in GEF-4

Note: Given changes in the GEF’s biodiversity strategy in GEF-4, a slightly modified Tracking Tool for this strategic objective has been developed. Please use this tool for all GEF-4 funded projects that fall under this strategic objective.

Objective: To measure progress in achieving the impacts and outcomes established at the portfolio level under the biodiversity focal area. The following targets and indicators are being tracked for all GEF-4 projects submitted under Strategic Objective Two and the associated Strategic Programs

Impact and Outcome Indicators for Strategic Objective Two and Associated Strategic Programs

Strategic Objective	Expected Long-Term Impacts	Indicators
To mainstream biodiversity conservation in production landscapes/ seascapes and sectors	Conservation and sustainable use of biodiversity incorporated in the productive landscape and seascape	<ul style="list-style-type: none"> • Number of hectares in production landscapes/seascapes under sustainable management but not yet certified¹ • Number of hectares/production systems under certified production practices that meet sustainability and biodiversity standards • Extent (coverage: hectares, payments generated) of payment for environmental service schemes
Strategic Programs for GEF-4 under Strategic Objective Two	Expected Outcomes	Indicators
4. Strengthening the policy and regulatory framework for mainstreaming biodiversity	<ul style="list-style-type: none"> • Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve and sustainably use biodiversity 	<ul style="list-style-type: none"> • The degree to which polices and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through the GEF tracking tool

¹ This indicator will measure the coverage of management systems in production landscapes and seascapes that are in a transition process to certified production practices.

GEF-4 Tracking Tool for GEF Biodiversity Focal Area Strategic Objective Two:
Mainstreaming Biodiversity Conservation in Production Landscapes/Seascapes and Sectors

Strategic Programs for GEF-4 under Strategic Objective Two	Expected Outcomes	Indicators
5. Fostering markets for biodiversity goods and services	<ul style="list-style-type: none"> • Markets created for environmental services • Global certification systems for goods produced in agriculture, fisheries, forestry, and other sectors include technically rigorous biodiversity standards 	<ul style="list-style-type: none"> • Number and extent (coverage: hectares, payments generated) of new payments for environmental service schemes created • Published certification systems that include technically rigorous biodiversity standards

Rationale: Project data from the GEF-4 project cohort will be aggregated for analysis of directional trends and patterns at a portfolio-wide level to inform the development of future GEF strategies and to report to GEF Council on portfolio-level performance in the biodiversity focal area.

Structure of Tracking Tool: Each tracking tool requests background and coverage information on the project and specific information required to track the indicator sets listed above.

Guidance in Applying the Tracking Tool: The tracking tools are applied three times: at CEO endorsement², at project mid-term, and at project completion.

In GEF-4, we expect that projects which fall clearly within Strategic Objectives and support specific Strategic Programs under each Strategic Objective hence only one tracking tool will need to be completed.

On *very rare occasions*, projects make substantive contributions to more than one strategic objective. In these instances, the tracking tools for the relevant strategic objectives should be applied. It is important to keep in mind that the objective is to capture the full range of a project’s contributions to delivering on the targets set for each of the strategic priorities. The GEF Implementing Agency/Executing Agency will guide the project teams in the choice of the tracking tools. Please submit all information on a single project as one package (even where more than one tracking tool is applied).

Multi-country projects may face unique circumstances in applying the tracking tools. The GEF requests that multi-country projects complete one tracking tool per country involved in the project, based on the project circumstances and activities in each respective country. The completed forms for each country should then be submitted as one package to the GEF. Global projects which do not have a country focus, but for which the tracking tool is applicable, should complete the tracking tool as comprehensively as possible.

The tracking tool does not substitute or replace project level M&E processes, or GEF Implementing Agencies’/Executing Agencies’ own monitoring processes. Project proponents and managers will likely be the most appropriate individuals to complete the Tracking Tool, in collaboration with the project team, since they would be most knowledgeable about the project.

² For Medium Sized Projects when they are submitted for CEO approval.

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Staff and consultants already working in the field could also provide assistance in filling out the Tracking Tool.

Submission: The finalized tracking tool will be cleared by the GEF Implementing Agencies and Executing Agencies before submission. The tracking tool is to be submitted to the GEF Secretariat at three points:

- 1.) With the project document at CEO endorsement³;
- 2.) Within 3 months of completion of the project's mid-term evaluation or report; and
- 3.) With the project's terminal evaluation or final completion report, and no later than 6 months after project closure.

³ For Medium Sized Projects when they are submitted for CEO approval.

I. Project General Information

1. Project Name: COLOMBIA Mainstreaming Biodiversity in Sustainable Cattle Ranching
2. Project Type (MSP or FSP): FSP
3. Project ID (GEF-SEC): 3574
4. Project ID (IA): P104687
5. Implementing Agency: World Bank
6. Country(ies): Colombia

Name of reviewers completing tracking tool and completion dates:

	Name	Title	Agency
Work Program Inclusion	Juan Pablo Ruiz	TTL Senior Natural Resources Management Specialist	World Bank
Project Mid-term			
Final Evaluation/project completion			

7. Project duration: *Planned* __5__ years *Actual* _____ years

8. Lead Project Executing Agency (ies): Colombian Cattle Ranching Association, FEDEGAN

9. GEF-4 Strategic Program (s):

- X Fostering markets for biodiversity goods and services (BD-SP 5)
- X Supporting Sustainable Agriculture and Rangeland Management (LD-SP1)

10. Production sectors and/or ecosystem services directly targeted by project:

10. a. Please identify the main production sectors involved in the project. Please put “P” for sectors that are primarily and directly targeted by the project, and “S” for those that are secondary or incidentally affected by the project.

- Agriculture __P__
- Fisheries _____
- Forestry __S__
- Tourism _____
- Mining _____
- Oil _____
- Transportation _____
- Other (please specify) _____

II. Project Landscape/Seascape Coverage

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11. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in the table below.

Targets and Timeframe	Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Project Coverage			
Landscape/seascape⁴ area <u>directly</u>⁵ covered by the project (ha)	50,500 hectares		
Landscape/seascape area <u>indirectly</u>⁶ covered by the project (ha)	16,000 hectares		

Explanation for indirect coverage numbers:

Includes: 1) total area of farms whose owners participate in training activities and 2) other farmers who will benefit from training in sustainable production practices

11. b. Are there Protected Areas within the landscape/seascape covered by the project? **NO**
If so, names these PAs, their IUCN or national PA category, and their extent in hectares.

	Name of Protected Areas	IUCN and/or national category of PA	Extent in hectares of PA
1.			
2.			
3.			
4...			

11. c. Within the landscape/seascape covered by the project, is the project implementing payment for environmental service schemes? If so, please complete the table below. An example is provided.

⁴ For projects working in seascapes (large marine ecosystems, fisheries etc.) please provide coverage figures and include explanatory text as necessary if reporting in hectares is not applicable or feasible.

⁵ Direct coverage refers to the area that is targeted by the project's site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

⁶ Using the example in footnote 5 above, the same project may, for example, "indirectly" cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

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Targets and Timeframe	Foreseen at Project Start		Achievement at Mid-term Evaluation of Project		Achievement at Final Evaluation of Project	
Coverage	Extent in hectares	Payments generated (US\$)	Extent in hectares	Payments generated (US\$)	Extent in hectares	Payments generated (US\$)
Environmental Service						
Biodiversity conservation	38,500 hectares	\$28 per hectare per year (*)				

(*) Average annual payment will be made in accordance to project's environmental services (ES) scores assigned to each land use and available resources. Payment levels are set in US dollars:

- a. US\$0.23 are awarded per baseline ha in farms at project start
- b. US\$0.18 are awarded per baseline ha of mature forests conserved annually
- c. US\$0.75 are awarded per incremental ha adopted by farmers annually
- d. According to the ES scores assigned to each land use in the ES index, values of incremental ha per land use would be: (i) US\$75 per ha of Mature forests or wetlands; (ii) US\$71.25 per ha of secondary forests; (iii) US\$52.5 per ha of pastures with trees and managed ecological succession; (iv) US\$37.5 per ha of agroforestry crops; and (v) US\$7.5 per ha of live fence/wind barriers or Agricultural and livestock lands with over 80 percent of vegetative cover.
- e. For example, if a farmer converts a 10 ha plot of degraded pasture in his/her farm (ES score 0) to a pasture with trees (ES score 70), at US\$0.75 recognized per incremental ha, he/she would be entitled to a total payment of $US\$0.75 \times 70 = US\525 (52,5 per ha)

Annual, ex-post payments would be made upon verification of land use changes and computation of ES score per farm. For further details on the PES scheme, please refer to PAD Annex 4A.

III. Management Practices Applied

12.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices. Please also note if a certification system is being applied and identify the certification system being used. Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

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Specific management practices that integrate BD	Name of certification system being used (insert NA if no certification system is being applied)	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
1. Implementation of Intensive Silvopastoral Systems	NA	12,000 hectares		
2. Implementation of other biodiversity-friendly SPS in farms	NA	17,750 hectares		
2. Establishment of connectivity corridors in farm landscapes	NA	15,750 hectares		
3. Protection of mature and secondary forests in farming landscapes	NA	5,000 hectares		

IV. Market Transformation

13. For those projects that have identified market transformation as a project objective, please describe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed. The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

Name of the market that the project seeks to affect (sector and sub-sector)	Unit of measure of Market impact	Market condition at the start of the project	Market condition at midterm evaluation of project	Market condition at final evaluation of the project
N/A				
N/A				

V. Policy and Regulatory frameworks

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions: 14a, 14b, 14c.

An example for a project that focused on the agriculture sector is provided in 14 a, b, and c.

14. a. Please complete this table at **CEO endorsement for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						
The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

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14. b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						
The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

14. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						
The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

14. d. Within the scope and objectives of the project, has the private sector undertaken **voluntary** measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

VI. Other Impacts

16. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.
