

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

COLOMBIA

**SAN FRANCISCO-MOCHOA ALTERNATE ROAD CONSTRUCTION
PROJECT - PHASE I**

(CO-L1019)

LOAN PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
1.	Procurement plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167335
2.	Annual work plan (AWP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167324
3.	Monitoring and evaluation arrangements http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167351
4.	Environmental and social management report (ESMR) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167358
OPTIONAL	
1.	Economic evaluation report and final benefits model (Pasto-Mocoa) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2166718
2.	Institutional and financial considerations (INVIAS) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2166738
3.	Projected vehicle traffic on the Pasto-Mocoa Road http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2166794
4.	PMASIS maps http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2166813
5.	CONPES document 3609, September 2009: Strategic importance of the Tumaco-Pasto-Mocoa corridor, including the San Francisco-Mocoa alternative route, and of the Airport (Cano)-Mojarras-Popayán corridor http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167179
6.	Poverty indices in Putumayo http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167188

7. Institutional agreement for executing the Integrated and Sustainable Environmental and Social Management Plan (PMASIS)
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167237>
8. National Development Plan 2006-2010
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167244>
9. Colombia Vision 2019: Proposal for the strategy to establish appropriate infrastructure for development
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167252>
10. Special Environmental Specifications for Construction Report
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167270>
11. Reference video for the project
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2167284>
12. Bank (IDB) procedures for land acquisition
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2179393>

ABBREVIATIONS

AWP	Annual work plan
CONPES	Consejo Nacional de Política Económica y Social [National Council on Economic and Social Policy]
Corpoamazonia	Corporación para el Desarrollo Sostenible del Sur de la Amazonía [Corporation for Sustainable Development of Southern Amazonia]
DMI	Distrito de Manejo Integrado [Integrated Management District]
ESMR	Environmental and Social Management Report
GDP	Gross domestic product
INCO	Instituto Nacional de Concesiones [National Concessions Authority]
INVIAS	Instituto Nacional de Vías [National Institute of Roads]
LPM	Large Project Management
MAVDT	Ministry of the Environment, Housing, and Land Development
MHCP	Ministry of Finance
NGO	Nongovernmental organization
PIU	Project implementation unit
PMASIS	Plan de Manejo Ambiental y Social Integrado y Sostenible [Integrated and Sustainable Environmental and Social Management Plan]
PRN	Primary road network
RFPCARM	Reserva Forestal Protectora de la Cuenca Alta del The Mocoa River [Protected Forest Reserve of the Upper The Mocoa River Basin]
RFPPRM	Reserva Forestal Protectora-Productora del The Mocoa River [The Mocoa River Protected-Productive Forest Reserve]
ToR	Terms of Reference
UBN	Unmet basic needs
UCAP	Unidad de Conservación de Áreas Protegidas [Protected Areas Conservation Unit]

PROJECT SUMMARY

COLOMBIA

SAN FRANCISCO-MOCHOA ALTERNATE ROAD CONSTRUCTION PROJECT - PHASE I

(CO-L1019)

Financial Terms and Conditions			
Borrower: Republic of Colombia		Amortization period:	25 years
		Grace period:	8 years
		Disbursement period:	8 years
		Interest rate:	LIBOR
IDB (Ordinary Capital)	US\$53,000,000	Inspection and supervision fee:	*
Local	US\$150,000,000	Credit fee:	*
Total	US\$203,000,000	Currency:	U.S. dollars from the Single Currency Facility
Project at a glance			
<p>Project objective/description:</p> <p>The objective is to improve the efficiency and safety of the Tumaco-Pasto-Mocoa road corridor, promoting the physical and economic integration of southern Colombia with the country's main production and consumption centers, while seeking to conserve its ecosystems and promote sustainable economic and social development. With this aim, the project will finance construction of the 45.6 km San Francisco-Mocoa bypass road and the social and environmental mitigation and compensation measures required for execution and operation of the project.</p> <p>Conditions precedent to the first disbursement (see paragraph 3.6): (i) INVIAS must have formed, by administrative resolution, an Independent Technical Advisory Committee for the project; and (ii) the project Operations Manual must be in effect.</p> <p>Special execution conditions (see paragraph 3.7): INVIAS (i) must provide evidence, before starting construction on any subsection, that the right of way has been released for the area where the contractor will be working; (ii) must enter into an implementation agreement with the environmental authority by 30 September 2010 for partial execution of the PMASIS; (iii) must conduct no construction work on the alternate road or other activities associated with the works that might affect the natural resources of the Reserve, such as tree clearing, opening the right of way, earth moving, or moving of machinery and physical facilities, until such time as the implementation agreement mentioned above in point (ii) has been signed; (iv) must have selected by mutual agreement with the Bank, and engaged with project resources by 30 September 2010, the members of the project Independent Technical Advisory Committee; and (v) must present the following (deadlines running from the date of the first disbursement): (a) 4 months into the project, the detailed revised plan for implementation of the PMASIS and provisions for addressing the concerns of communities affected and settlement of claims; (b) 6 months into the project, evidence that the The Mocoa River Protected-Productive Forest Reserve (RFPPRM or the "Reserve") with its current boundaries has been registered; (c) 12 months into the project, the plan for monitoring the use of land and forested areas, including the baseline; and (d) 24 months into the project, the Declarations of the Expanded Forest Reserve, the Productive-Protected Reserve, and the Mocoa Integrated Management District (DMI).</p> <p>Special considerations: A revolving fund in an amount of 10% of the loan is being requested (see paragraph 3.10).</p>			
<p>Project consistent with country strategy: Yes [X] No []</p>			
<p>Project qualifies as: SEQ [] PTI [X] Sector [] Geographic [X] Headcount []</p>			

* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 Colombia relies on the road system for internal transportation: 80% of freight and 92% of interurban passenger travel moves over the road network. The primary (or arterial) road network (PRN) falls under the jurisdiction of the Ministry of Transportation, shared by INVIAS (nonconcessioned roads) and Instituto Nacional de Concesiones [National Concessions Authority] (INCO). The total length of the country's road network is 165,000 km, of which 16,770 km (10%) make up the primary network, 80% of which is paved. INVIAS is responsible for 80% of primary roads.
- 1.2 The large volumes of passenger and freight transportation primarily use the PRN, which is generally in good condition as a result of INVIAS' effective road conservation policy. Consequently, 56% of paved roads are in good condition, 31% are in fair condition, and 13% are in poor condition. Despite these favorable operating conditions, many important roads in the network have inadequate design and capacity specifications.
- 1.3 Colombia's privileged position means it plays an important role in integrating the regional infrastructure. That is why the "Road Development in Southern Colombia" project covering the Tumaco-Pasto-Mocoa-Asís Port and Airport-Mojarras-Popayán corridors was declared to be of strategic national importance (National Council on Economic and Social Policy (CONPES) document 3609, September 2009). The former includes the San Francisco-Mocoa bypass road and will aid in international transportation between Colombia and Ecuador through the Andean Integration Hub and facilitate the connection with Brazil through the Multimodal Amazon Hub, both part of the Initiative for the Integration of South American Regional Infrastructure (IIRSA). The corridor is identified in the Colombian National Development Plan 2006-2010 as one of the complementary arterial corridors that is a key contributor to the increased competitiveness and productivity of Colombia.
- 1.4 The Tumaco-Pasto-Mocoa corridor has several sections. INVIAS is paving the section between Tumaco, Pasto (capital of the department of Nariño), and San Francisco. There are serious traffic restrictions on the section of road (78 km) between San Francisco and Mocoa (capital of Putumayo) built in the 1930s, which has long 4-meter wide stretches where only one vehicle can pass, high gradients, unstable areas, constant cloudiness, and sharp cliffs, making this one of the roads with the highest accident rate in the country.¹ This uncertain accessibility and connectivity has resulted in serious limitations to the development of profitable and

¹ According to statistics from the INVIAS field office in Putumayo, which is responsible for its operation and maintenance, between May 2007 and July 2008, 23 accidents left 32 people dead and 27 injured. Because of the high accident rate, this road has been closed to vehicle traffic from 6:00 p.m. to 6:00 a.m. since July 2008.

productive alternatives, and a primary sector that is not very competitive, and has contributed to the high level of pervasive poverty in the region.

- 1.5 Rehabilitation of the San Francisco-Mocoa section using the same route would be very costly and environmentally inappropriate, resulting in the need to build a 45.6 km alternate route. The proposed route would be located in the Amazon foothills, and 68% of the route would cross through the Protected Forest Reserve of the Upper The Mocoa River Basin (RFPCARM), which is administered by Corpoamazonia (the competent environmental authority) pursuant to Law 99 of 1993. The proposed route would also skirt some of a Camino Real used as an overland route by the Andean and Amazonian indigenous communities since ancestral times. While there are no indigenous communities in the area of the alternate road, they have a close sociocultural relationship with the forest reserve. Because of its environmentally sensitive location, the design of the alternate route was optimized to minimize its environmental impacts and the construction works and complemented with the PMASIS as a project component.
- 1.6 **Ministry of Transportation's strategy.** The Ministry of Transportation's road strategy is to improve the serviceability of transportation corridors for foreign trade (competitiveness corridors) and those that connect large production and consumption centers by means of projects to expand their capacity and improvements to critical sections of road, while continuing to effectively maintain the rest of the PRN. The Ministry of Transportation is also implementing a Program for Development of Highway Concessions 2006-2014 that would award a concession for 2,700 km of roads with high impact on national productivity. The Tumaco-Pasto-Mocoa corridor forms part of the complementary competitiveness corridors owing to its contribution to the greater competitiveness and productivity of southern Colombia.
- 1.7 The National Development Plan and other strategic government documents establish considerable investments to modernize the road network, which could come to represent nearly 5% of gross domestic product. The General Short-term Expenditure Framework for the Transportation Sector 2009-2012 reflects this effort. The greater investment corresponds to INVIAS, increasing from 66% in 2009 to 73% in 2012.

Figures in millions of 2008 pesos	2009	2010	2011	2012
Ministry of Transportation	173,399	53,741	47,788	48,291
INVIAS	2,152,575	2,116,100	2,897,789	2,977,426
Special Administrative Unit of Civil Aviation	194,230	186,812	205,533	207,914
INCO	715,906	817,209	860,734	824,446
Total	3,221,109	3,173,862	4,011,844	4,058,078

Source: Ministry of Transportation-INVIAS

- 1.8 **The Bank's country strategy.** The objective of the Bank's strategy with Colombia (2007-2010) is to help reduce poverty and improve equity, promoting access to

opportunities for the very poor majority through three strategic pillars: (i) competitiveness; (ii) social development; and (iii) governance and strengthening of the State. The proposed project is consistent with the country strategy because: (i) it will improve the traffic and safety conditions on the overland route between the departments of Nariño and Putumayo, and between those departments and the rest of Colombia and neighboring countries, facilitating access by the people to social services and ensuring the transportation of merchandise and goods to and from production, consumption, and export centers; (ii) improvement in cargo and passenger transportation conditions will help increase regional productivity and the resulting sustainable development of the region; and (iii) ending the region's isolation will foster a greater State presence, strengthening local governance mechanisms.

- 1.9 **Rationale for the Bank's participation.** In 2006, the Government of Colombia approached the Bank for technical assistance to build the alternate road, taking into account the specific environmental and sociocultural characteristics of the project area. Since then, the Bank has approved nonreimbursable technical-cooperation operations totaling close to US\$1.7 million, providing INVIAS with technical and financial support to: (i) establish a broad and integrated process of discussion and participation with communities, indigenous populations, nongovernmental organizations (NGOs), public agencies, and private stakeholders; (ii) carry out technical and social and environmental studies that permitted an assessment of the project's implications from an international, national, regional, and local perspective, and an analysis of their synergy with other development activities envisaged for the region, in addition to identifying the direct impacts resulting from its construction and operation; (iii) propose a broad impact mitigation and compensation plan that, in addition to managing the impacts of the works, will enable the project to promote conservation of regional ecosystems; and (iv) establish an institutional agreement with organizations responsible for implementing that plan.

B. Objectives, components, and cost

1. Objective

- 1.10 The objective of the project is to improve the efficiency and safety of the Tumaco-Pasto-Mocoa road corridor by building the San Francisco-Mocoa bypass road, thereby promoting the physical and economic integration of southern Colombia with neighboring countries and with the principal production and consumption centers in the rest of the country, while seeking to conserve its ecosystems and promote the sustainable economic and social development of the region.
- 1.11 The project will provide benefits to the users of the road corridor and those living in the departments of Nariño and Putumayo. Construction of the bypass road and improvement of the remaining sections of the Tumaco-Pasto-Mocoa corridor, associated with completion of the rehabilitation works on the border crossing between Colombia and Ecuador on the San Miguel bridge and paving of the Mocoa

access road to that crossing, already being executed by INVIAS, will create a new transportation alternative that will permit savings of nearly 13% in the cost of transportation per ton. Likewise, the bypass road will improve road safety, shorten the Pasto-Mocoa-Bogota route from 800 km to 730 km, and reduce travel time from 18 hours to 14 hours, making the road serviceable for the transportation of agricultural goods from the two departments to the country's main consumption and export centers and contributing to its socioeconomic development.

- 1.12 Likewise, the project's sustainable regional integration framework will promote conservation of the region's protected areas through better land use, the social and productive development of the communities in its area of influence, and control over the spreading of the inappropriate use of natural resources. Lastly, ending historical isolation and strengthening local governance under the project will help improve the defense of property rights of the region's population.
- 1.13 INVIAS has divided the construction of the alternate road into two phases: (i) the first phase to be financed under the present loan costs US\$203 million and will permit the alternate route to be built with a wearing surface and put in service in full operational and safe condition; social and environmental measures come with this phase; and (ii) the second phase (US\$60 million), to be financed with resources from the Colombian government, will include the asphalt paving of the alternate road; phase II is not part of the present operation. The division into phases is due to restrictions on future budget appropriations and the high cost of the works.

2. Components

- 1.14 The project has two components: (i) civil works and inspection; and (ii) PMASIS.
- 1.15 **Component I. Civil works and inspection** (US\$191 million). This component includes: (i) construction of 45.6 km of surfaced alternate road (phase I), acquisition of the right-of-way areas required to execute the project² (see optional link 12), and measures to mitigate the direct impacts of those works; (ii) supervision (inspection) of works; and (iii) project management by INVIAS, including the resources for conducting midterm and final project evaluations.
- 1.16 INVIAS started technical engineering studies for the alternate road in 2002. In preparing this operation and in compliance with a requirement of the Ministry of the Environment, Housing, and Land Development (MAVDT), INVIAS completed two detailed studies: (i) updating and supplementing of technical, environmental,

² The project will finance the purchase of land for the right of way where the project will be executed. An appraisal will be made by the region's professional appraisers association, and the amount of economic compensation for the goods and productive activities developed on the property, guaranteeing the replacement value of the property and improvements will be added to the appraisal amount. INVIAS will provide social, technical, and legal advice for the search, purchase, and titling of the new property. The Environmental and Social Management Report (ESMR) presents a program for management of families living in right of way in accordance with OP-710.

- and economic analyses of route alternatives;³ and (ii) a thorough review of the geometric design to avoid or reduce the potential social and environmental impacts of construction and operation of the project. As a result of these studies, the alternative of building on the right bank of The Mocoa River was selected as the best option because it would entail less social and environmental impacts, better road safety conditions, greater benefits in terms of time and operating costs, and lower execution costs (see required link 5).
- 1.17 As the alternate road cuts through mountainous and steep terrain for a considerable distance, many structures such as bridges and retaining walls will be needed to circumvent deep depressions and thus produce a vertical alignment with maximum gradients of 10% on sections of less than 200 m in length, with a minimum curvature radius of 50 m on rolling terrain and 30 m on mountainous terrain. The road was designed for speeds of 40 km/hour. Given the complex topography of the region and the engineering design, construction of the alternate road will need to adhere to careful technical specifications and follow a rigorous supervision and monitoring process. The associated costs are included in this component.
- 1.18 As a result of the review and supplemental engineering studies, the bypass road has a modern design with significant improvements over the original design and environmental protection advantages, including: (i) a 55% reduction in the volume of embankments (540,000 m³ to 247,000 m³); (ii) a 35% reduction in the volume of excavations (5.2 million m³ to 3.4 million m³); (iii) a decrease in the maximum height of banks (58 m to 36 m), including special stability measures; (iv) an increase in the length of bridges and viaducts, reducing the direct impact on the land and facilitating the movement of fauna (49 viaducts over 45.6 km); and (vi) a reduction of 3.6 ha in the forested areas affected.
- 1.19 **Component 2. PMASIS for the RFPPRM** (US\$11 million). This component includes mitigation and compensation measures relating to construction of the alternate route and monitoring and tracking during operation, in compliance with the project environmental permit. This component adds to the project biodiversity protection, management, and conservation activities in the Protected Forest Reserve in the Upper Basin of the Rio Mocoa (RFPCARM or Reserve) and the surrounding areas in compliance with Directive B.9 of the Environment and Safeguards Compliance Policy (OP-703) with the result that the alternate road does not degrade or significantly alter critical native habitats in the project area.
- 1.20 In preparing this operation, several evaluations were made with a view to preventing, mitigating, and offsetting the potential environmental impacts of construction and operation of the alternate road, including: (i) updating and supplementing of the environmental impact study (EIS); (ii) strategic regional

³ The following alternatives were analyzed: (i) rehabilitation of the current section, without changing the route; (ii) improvement of the current section, with changes to the route in critical sectors; (iii) construction of an alternate road on the left bank of the Mocoa River; and (iv) construction of an alternate road along the right edge of the river.

environmental assessment (REA); and (iii) a Basic Environmental and Social Management Plan for the Forest Reserve (PBMAS). The PMASIS consolidates the measures and actions proposed by the aforementioned studies, the requests of the MAVDT covered by the environmental permit, and the Bank's policies. The PMASIS programs and projects are divided into five overarching strategies:

- 1.21 Environmental land use. This includes: (i) creation and consolidation of a large biological conservation corridor with an area of 121,700 ha connecting the southern extent of the Colombian Massif with northern Amazonia, including: (a) expansion and consolidation of the Mocoa River Protected Forest Reserve from 34,600 ha to 65,300 ha; (b) creation of a Protected-Productive Forest Reserve (5,770 ha) in the reserve region currently occupied by campesino communities; and (c) creation of the Mocoa integrated management district (50,660 ha) in the east to link up with other protected areas of Amazonia; (ii) adaptation of land use plans for Mocoa and San Francisco and of watershed management plans; and (iii) creation of a theme park at the entrance to the reserve to contain the urban expansion of Mocoa and promote environmental education.
- 1.22 Conservation and sustainable development. Includes: (i) research and monitoring of the natural resources of the expanded reserve; the purchase of land and restoration of vegetation in degraded areas as compensation for removal of the right of way; and the rescue, relocation, and reintroduction of native species; and (ii) local governance strengthening projects, including support for: (a) the competent environmental authority for administration of the Reserve; (b) environmental supervision and strengthening of citizen participation; (c) promotion of alternative financing sources for managing the reserve, such as payment for environmental services; and (d) an independent technical advisory committee to supervise the PMASIS.
- 1.23 Relationship of communities to conservation of the protected areas. This includes promoting together with the local communities activities for the sustainable use and management of natural resources, involving them in local biodiversity protection at the same time that it allows them to generate income and improve their quality of life. It encompasses the following: (i) generation of sustainable production projects; (ii) development of regional tourism and ecotourism activities; (iii) establishment of environmental education sites; (iv) support for indigenous communities; and (v) compensation for families affected by the right of way.
- 1.24 Sustainable construction of the alternate road. This encompasses the environmental management plan (EMP) for facilities and work sites, for the conservation and use of soil, water, and vegetation resources affected by construction, as well as the code of conduct and environmental education of project personnel.
- 1.25 Operation, monitoring, and supervision. This includes supervision and monitoring of inappropriate occupation of the expanded reserve (five control posts on the route; implementation of the forest ranger families project; and monitoring and tracking through satellite and radar imagery). It also includes sustainable operation and

maintenance of the road, control of the right of way, special signage, and contingency measures for environmental emergencies.

3. Costs

- 1.26 The project will cost US\$203 million, of which US\$53 million will be financed by the Bank and the remainder as local counterpart funding from the Colombian government. The disbursement period will be 8 years. A breakdown of the funding by component and source of financing is presented in the chart below (values in US\$000).

Components	Total	Bank	Local contribution
Component 1. Civil works and inspection	191,096	41,096	150,000
1.1 Construction of the alternate road*	176,870	36,568	140,302
1.2 Supervision (inspection) of works	12,226	2,528	9,698
1.3 Project management**	2,000	2,000	-
Component 2. PMASIS	11,404	11,404	-
2.1 Land use	1,253	1,253	-
2.2 Conservation and sustainable development	5,249	5,249	-
2.3 Linking communities with conservation	1,869	1,869	-
2.4 Sustainable construction (in the cost of the works)	-	-	-
2.5 Operation, monitoring, and supervision	3,033	3,033	-
Financial accounting audit	500	500	-
TOTAL	203,000	53,000	150,000

* Includes direct environmental mitigation of the works, acquisition of land, management, contingencies, and earnings; VAT; readjustments. ** Includes midterm and final evaluations.

- 1.27 There is a possibility that in mid-2011 the Colombian government will request the total or partial replacement of counterpart funding with Bank financing. Such an eventuality is provided for in CONPES document 3610 of September 2009, which authorizes external borrowing for up to US\$203 million to finance the present operation. Even if a situation where the funding is replaced does not materialize, the government has earmarked future sums as additional counterpart funding for the project.

C. Results matrix and key indicators

- 1.28 The expected outcomes have to do with improvements in existing physical accessibility and serviceability, which will result in lower transportation costs, shorter travel time, more reliable road service, and better road safety conditions. The social and environmental sustainability guaranteed by the PMASIS will result in an increase in protected areas and greater conservation of local biodiversity. The

project outcomes are presented in greater detail in Annex II. In the medium term, results are expected to be obtained in growth in economic activity, diversification, and expansion of production, improvement in protection of the right of way of the local population, and poverty reduction.

- 1.29 The project qualifies as a poverty-targeted investment based on the geographic criteria. The alternate road passes through the municipios of San Francisco and Mocoa, which have populations of 6,800 and 35,800 inhabitants, respectively, and a high incidence of unmet basic needs (UBN). In Mocoa, 52.6% of the population has UBN, and in San Francisco the percentage rises to as much as 61.7% (see optional link 6). The combined contribution of Nariño and Putumayo to the national GDP is 3%. In 2006, Nariño had a GDP of US\$1,500 per capita and Putumayo US\$1,000/capita. The figures represent less than one third of Bogota's GDP/per capita of around US\$4,800.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instrument

- 2.1 The project will be financed through a specific investment loan. The term of the loan will be 25 years, with a grace period of 8 years based on the following timetable (values in US\$ millions):

	2010	2011	2012	2013	2014	2015	2016	2017	TOTAL
IDB	11.00	27.00	7.52	1.21	1.21	1.21	1.21	2.64	53.00
GOC	0	0	19.48	33.79	31.79	28.79	28.79	7.36	150.00
TOTAL	11.00	27.00	27.00	35.00	33.00	30.00	30.00	10.00	203.00

B. Environmental and social safeguard risks

- 2.2 After completing the environmental evaluation of the project as a whole, and given that steps were taken during the preliminary phase to incorporate all environmental and social considerations, the project was determined to be viable from an environmental and sociocultural standpoint and in compliance with the Bank's policies and safeguards.
- 2.3 Environment and Safeguards Compliance Policy (OP-703). The project complies with the country's environmental legislation and regulations. MAVDT issued the environmental permit in December 2008. Because it is located in a critical habitat, the project was classified as category "A." It was designed to include mitigation and compensation measures, including expansion of the reserve area from 34,600 ha to 65,289 ha, to minimize habitat loss and establish and maintain an ecologically greater protected area. This measure, fully financed by the PMASIS, which also has implementation and supervision mechanisms, was included by MAVDT in the environmental permit as part of project compensation. All of the projects and programs were designed based on a comprehensive process of consultation and participation by local communities, NGOs, and public and private agencies.

- 2.4 Operational Policy on Indigenous Peoples (OP-765). There are no indigenous reserves along the alternate route or in the forest reserve area. The indigenous communities of the Mocoa sector and the Sibundoy Valley in the project area acknowledge that their communities need the alternate road. During project preparation, a special consultative process with the communities added measures to the PMASIS to support their development while maintaining their cultural identity, and to provide direct economic benefits from the project to them through support for establishing an indigenous mining area that can provide materials for the construction or operation of the road and other priority projects.
- 2.5 Operational Policy on Involuntary Resettlement (OP-710). The project requires only the relocation of five families because the properties affected are too small to move the homes. Here, the project anticipates purchasing property in the same region. The project encompasses a relocation plan with three types of compensation: (i) payment for land, buildings, and related goods in accordance with national law and guaranteeing the replacement value of the property and improvements; (ii) payment of compensation for the impacts caused by the purchase of the property, in accordance with Resolution 1843 of 2008 of INVIAS, which considers compensation based on housing space, economic activities carried out or associated with it, titling procedures, relocation costs, and overcrowding in the home subject to relocation; and (iii) social, legal, and technical advice for the purchase of the new home. In no event will the specifications of the new home be inferior to basic specifications or of lower quality than the current home. The municipality of Mocoa is introducing a relocation program for displaced families located in the right of way at the entrance to Mocoa that complies with the principles of OP-710.
- 2.6 Operational Policy on Disaster Risk Management (OP-704). The update of the engineering study on project preparation (see paragraph 1.17) reviewed in depth the natural risks associated with construction and operation of the road and changed the original design, minimizing the cuts and the embankment height, moving the route further away, with the construction of nearly 10 km of retaining walls and 49 bridges and viaducts, without increasing the cost of the works and minimizing the risks of landslides and avalanches.
- 2.7 The PMASIS should become a social and environmental management instrument of INVIAS and the competent environmental authority for the Reserve. To that end, it has the backing of the departmental, municipal, police, military, and national park authorities, who signed an institutional agreement in May 2009 (see optional link 7) to support implementation, and the MAVDT, which included it as part of the obligations of the environmental permit for the alternate road.
- 2.8 PMASIS also has several supervision, monitoring, and oversight mechanisms encompassing: (i) establishment of five fully staffed control posts at the entrance and the exit of the forest reserve, and midway along the current road and the alternate route, with the necessary communications, logistics, and transportation equipment under the control of Corpoamazonia; (ii) use of forest rangers to monitor

the reserve area, with communications and transportation equipment; the forest rangers will be coordinated from the control posts; (iii) tracking of deforestation on the expanded reserve through satellite and radar imagery taken annually during construction of the alternate route and semiannually for five years after the road is opened; (iv) tracking of potentially affected species of flora and fauna; (v) support for the formation of citizen inspection units for the bypass road and the PMASIS, as well as mechanisms for citizen participation; and (vi) formation of an Independent Technical Assistance Committee for the project with three professionals selected by INVIAS with the Bank's agreement. These mechanisms will be financed with PMASIS resources.

C. Fiduciary risk

- 2.9 No problems are anticipated given INVIAS' experience in projects and programs financed by multilateral banks. INVIAS is a competent executing agency, as demonstrated by the favorable conditions and length of the network under its jurisdiction and by its extensive experience with civil works contracting. The competent environmental authority for the Reserve, which will be responsible for implementing some of the socioenvironmental measures, will set up a Project Implementation Unit (PIU) to be staffed with professionals with the no objection of the Bank and INVIAS. The PIU will be trained in the Bank's fiduciary procedures, thereby reducing fiduciary risk.

D. Other considerations and risks

- 2.10 Economic viability (see optional link 1). The project was evaluated using the "Gamma Discounting" method proposed by Weitzman (2001) for projects with long-term and intergenerational effects. Similar methods are used in the United Kingdom to evaluate public projects (HM Treasury 2003 and 2008). This is an important methodological characteristic of the evaluation used. Considering only the effects of the project in its area of influence, a base case was built that models the cost and benefit streams in detail during the first 20 years (4 scenarios). The average net flows were then projected for years 15 to 20 with a growth rate of 4% between years 20 and 40 of the project.
- 2.11 The regional benefits of the project come to US\$342.2 million in the base case scenario. These benefits amount to US\$383.4 million in a best-case growth scenario (6% per annum) for years 20 to 40 and US\$317.4 million in a worst-case growth scenario (2.5% per annum) for the same period. These figures exceed the estimated costs of the project in all cases, and represent a lower limit of the total project benefits. Under conservative assumptions of the project impact at the national and international level due to the increase in safety and law and order, additional benefits of US\$125.7 million are estimated. Accordingly, total benefits from the projects (before investment) are estimated at: US\$443 million (economic growth of 2.5% per annum); US\$468 million (4% per annum); and US\$509 million (6% per annum). Internal rates of return range from 4.44% (high traffic and high percentage of cars and buses in the first 20 years; economic growth of 6% in years 21 to 40), to

- 3.48% (moderate traffic and low percentage of cars and buses in the first 20 years; economic growth of 2.5% in years 21 to 40). This range in internal rates of return exceeds the discount rate proposed by Weitzman (3%) for projects for which the benefits start in years 6 and 25 for a project with long-term impacts. According to the methodology, the project is beneficial because of the net positive benefits and internal rate of return.
- 2.12 **Technical risk.** The specific characteristics of the project area require special care in construction of the works. In preparing the project, then, strict general and detailed technical specifications were designed and tailored to the sustainability conditions imposed on the project. The broad market of national and international supervision firms and contractors trained in projects of this kind ensures that the works will receive the special technical care demanded.

III. IMPLEMENTATION AND MANAGEMENT PLAN

- 3.1 **Borrower and executing agency.** The borrower will be the Republic of Colombia and the executing agency will be INVIAS, an entity with legal capacity under national public law, and administrative, operational, financial, budgetary, and legal autonomy. INVIAS is attached to the Ministry of Transportation. The organization and powers of INVIAS were updated by Decree 2056 of 2003.
- 3.2 **Implementation arrangements.** INVIAS will act through Large Project Management (LPM), which coordinates large construction projects currently under way.⁴ The LPM's responsibilities will include: (i) coordinating the activities of other INVIAS branch offices involved in the project; (ii) promoting compliance with the contractual conditions of the loan; (iii) acting as INVIAS' representative to the Bank and coordinating semiannual performance reports, annual work plans (AWPs) by component, and the corresponding annual budgets; (iv) issuing calls for tenders, contracting, and performing monitoring and administrative and financial supervision of the works, inspections, audits, and midterm and final evaluations; (v) processing payments for the contracts; (vi) maintaining the project's financial, administrative, and technical information systems; and (vii) preparing and presenting accountability reports and disbursement requests to the Bank and the Ministry of Finance (MHCP).
- 3.3 INVIAS will entrust the competent environmental authority for administration of the Reserve with partial execution of component 2 (PMASIS).⁵ To accomplish this

⁴ These include La Línea Tunnel (US\$420 million), the Loboguerrero-Buenaventura divided highway (US\$300 million), Avenida ALO in Bogota (US\$30 million), the Aburra Sur divided highway (US\$80 million), the Animas-Nuqui highway (current investment of US\$60 million, total cost of US\$200 million), etc.

⁵ The competent environmental authority will carry out those PMASIS activities linked to management of the reserve, whereas INVIAS will be in charge of those PMASIS activities concerned with construction of the highway and those that must be carried out in accordance with the environmental permit. The implementation agreement and procurement plan reflect this separation of responsibilities (see Annex III).

aim, INVIAS and the environmental authority must sign an implementation agreement setting out the technical, administrative, fiduciary, and financial responsibilities and procedures to be fulfilled by PMASIS, including the creation of a project implementation unit within the environmental authority, that would be financed with project resources. The unit will (i) prepare the semiannual progress reports and annual work plans and plan activities and related budgets; (ii) prepare the terms of reference and issue calls for tenders for consulting services, works, and goods, including participation on proposal evaluation and bid selection committees; (iii) provide technical monitoring, tracking, and supervision of the project; (vi) perform administrative and financial audits of project-financed contracts; (v) make recommendations on the approval of studies and acceptance of goods and works and related contractual payment; (vi) prepare accountability reports and disbursement requests; and (vii) maintain a technical, administrative, and financial file of PMASIS.

- 3.4 The implementation agreement will need to spell out the environmental authority's responsibilities with respect to: (i) partial financing of the PMASIS oversight, monitoring, and tracking plan for a period of five years from the date the alternate road becomes operational;⁶ (ii) establishment of a revolving fund of 10% for administration of resources transferred by INVIAS; (iii) fulfillment of the conditions and procedures set out in the EMSR (see required link 5); and (iv) any other provisions that may be necessary to ensure that the activities to be carried out by the environmental authority are consistent with those of the loan contract between the Republic of Colombia and the Bank.
- 3.5 The Office of the Deputy Director of Environment and Social Management of INVIAS will support LPM in monitoring and tracking the PMASIS, ensuring effective coordination of LPM, the environmental authority, and the other stakeholders involved in implementation. To that end, it must give its prior no objection to: (i) the semiannual performance reports and PMASIS annual work plans, including the results of tracking flora and fauna prior to submission to the Bank; (ii) with respect to civil works and their supervision, to socioenvironmental issues and property acquisition: (a) the ToR for all projects before initiating the tender process; and (b) the partial and final reports, works completed, and goods procured; and it must (iii) recommend that LPM approve the accountability reports and disbursement requests.
- 3.6 **Conditions precedent to the first disbursement. These conditions include: (i) INVIAS must have set up, by administrative resolution, the project Independent Technical Advisory Committee in accordance with the ToR agreed between the Bank and INVIAS; and (ii) subject to the Bank's no objection, the project Operations Manual must have entered into effect, to**

⁶ INVIAS will also contribute to the financing of these activities. Upon completion of the construction work, INVIAS and the environmental authority will arrange the future budgetary allocations to the road.

include the PMASIS and the environmental management system envisaged in the ESMR.

- 3.7 **Special execution conditions.** INVIAS: (i) must provide evidence, before starting construction on any subsection, that the right of way has been released for the area where the contractor will be working in accordance with the PMASIS; (ii) must enter into an implementation agreement with the environmental authority by 30 September 2010 for partial execution of the PMASIS; (iii) must conduct no construction work on the alternate road or other activities associated with the works that might affect the natural resources of the Reserve, such as tree clearing, opening the right of way, earth moving, or moving of machinery and physical facilities, until such time as the implementation agreement mentioned above in point (ii) has been signed; (iv) must have selected by mutual agreement with the Bank, and engaged with project resources by 30 September 2010, the members of the project Independent Technical Advisory Committee; and (v) must present the following (deadlines running from the date of the first disbursement): (a) 4 months into the project, the detailed revised plan for implementation of the PMASIS and provisions for addressing the concerns of communities affected and settlement of claims; (b) 6 months into the project, evidence that the The Mocoa River Protected-Productive Forest Reserve (RFPPRM) with its current boundaries has been registered; (c) 12 months into the project, the plan for monitoring the use of land and forested areas, including the baseline; and (d) 24 months into the project, the Declarations of the Expanded Forest Reserve, the Productive-Protected Reserve, and the Mocoa Integrated Management District (DMI).
- 3.8 **Procurement.** Goods, works, and services will be procured for the project in accordance with the Bank's policies. The procurement of goods, works, and consulting services financed with project resources will be reviewed *ex ante* until such time as the Bank authorizes a change in procedure to *ex post* review in accordance with the Bank's policies and the Procurement Plan (see Annex III).
- 3.9 **Monitoring and evaluation.** INVIAS will present to the Bank semiannual performance reports indicating the status of each component and the project's overall performance metrics based on the agreed indicators in the results matrix. The reports must also include the following information for each component: (i) a description of the activities carried out; (ii) updated timetables of physical execution and disbursements; (iii) the extent to which the agreed execution indicators have been attained; (iv) program of activities for the next six months; (v) status of financial execution and flow of resources anticipated for the next six months; and (vi) possible events that could jeopardize project execution. Also, it must present the AWP, which will include the detailed work plan anticipated for the next year and the updated procurement plan. Independent consultants will perform a midterm evaluation (when at least 50% of the loan has been disbursed or by year four of the project) and a final evaluations (when at least 90% of the loan has been disbursed), including the PMASIS.

- 3.10 **Special account and revolving fund.** To facilitate project disbursements, a revolving fund will be established in an amount equivalent to 10% of the loan. This request is based on numerous contracts associated with execution of the PMASIS and management of resources by the environmental authority.
- 3.11 INVIAS will report to the Bank that it has: (i) opened separate bank accounts specifically to administer the proceeds of the loan and local counterpart funding; (ii) an effective system of (a) internal control and accounting and financial records of project resources by source and application, and (b) a file of documentation in support of eligible expenses for verification by the Bank and the external auditors; and (iii) presented (a) semiannual reports on the revolving fund within 60 days after the end of each calendar six-month period; (b) disbursement requests and justification in support of expenses; and (c) any other reports that the Bank may require.
- 3.12 **External audit.** INVIAS will present to the Bank the consolidated annual financial statements of the project within 120 days after the end of the fiscal year. To that end, it will commission an external audit by a firm of independent auditors selected and hired in accordance with the Bank's requirements. The audit will include semiannual audits of disbursements with the opinion of the external auditor. The cost of the audit will be part of the project expenses.

Annex

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RESULTS FRAMEWORK / MATRIX OF INDICATORS

Purpose of the project	Contribute to the economic and social development of southern Colombia and to the economic integration of this region with neighboring countries (Ecuador, Peru, and Brazil) by improving the efficiency and safety of the Tumaco-Pasto-Mocoa road corridor.		
General objective of the project	The objective of the project is to improve the efficiency and safety of the Pasto-Mocoa road corridor by building the San Francisco-Mocoa alternate road, thereby promoting the physical and economic integration of southern Colombia with neighboring countries and the main production and consumption centers in the rest of the country, as well as conservation of its ecosystems, which contributes to the sustainable economic and social development of the region.		
Outcome indicators	Base Level	Target	Comments
Number of days each year with severe traffic restrictions on the road between San Francisco and Mocoa, affecting the safe and continuous movement of passengers and freight	The road remains closed to traffic daily from 6 p.m. to 6 a.m. Year 0=183 days a year with severe traffic restrictions	Year 8: 100% of the road is always open to vehicle traffic.	Monthly records will be kept of the serviceability of the road through the field offices of Instituto Nacional de Vías [National Institute of Roads] (INVIAS) in the departments of Nariño and Putumayo. INVIAS will include at least one counting station along the alternate road to record traffic volumes for purpose of its periodic report. The reports must be presented semiannually and include monthly data and information.
Reduction in the average travel time between San Francisco and Mocoa	Year 0=2.5 hours	Year 8=1.5 hours	Vehicles will be counted and travel times recorded during the first year of operation of the San Francisco-Mocoa alternate road through INVIAS' field offices in the departments of Nariño and Putumayo.
Reduction in the average vehicle cost per kilometer between San Francisco and Mocoa	Year 0=US\$105/km	Year 8=US\$61/km	Vehicle operating costs will be calculated by INVIAS as part of a cost assessment using the current values of inputs and outputs at the time of the assessment, applying model HDM 4.

Increase in protected areas in the area of the alternate road	Year 0=34,600 ha	Year 8=65,289 ha	The following acts by government authorities will be considered: (i) Resolution by the Ministry of the Environment, Housing, and Land Development (MAVDT) to expand the Upper Río Mocoa Basin Protected Forest Reserve (RFPCARM) and designate the San Francisco Protective-Productive Forest Reserve (RFPP); and (ii) agreement of the Board of Directors of the environmental authority designating the Mocoa Integrated Management District (DMI).
Reduction in the average number of accidents currently occurring each year on the road between San Francisco and Mocoa	Year 0=23 accidents each year	Year 8=12 accidents each year	Monthly records will be kept of the number and severity of accidents through INVIAS' field office in Mocoa (Putumayo), from the time the road is open to traffic.

Objective of the civil works component	Provide a new surfaced 45.6 km road that guarantees year-round serviceability, acceptable road safety conditions, and appropriate environmental mitigation measures, and replaces the existing road between San Francisco and Mocoa.								
Civil works component	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Target	Comments
Outputs									
Construction of San Francisco section: 21.9 km	1.0 km	1.0 km	2.0 km	3.0 km	4.0 km	6.0 km	4.9 km	21.9 km	To be verified through quarterly status reports prepared by INVIAS.
Construction of Mocoa section: 23.7 km	1.0 km	1.0 km	2.0 km	4.0 km	5.0 km	5.0 km	5.7 km	23.7 km	

Objective of the Integrated and Sustainable Environmental and Social Management Plan (PMASIS) component	Development of the forest reserve crossed by the alternate road through the conservation and sustainable development of protected areas used by the community, modifications to environmental land use plans, and social and productive development of the communities in the project area.
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Component	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Comments
Output 1: <i>Environmental land use through implementation of: (a) Plan for Regional Ecological Integration and Consolidation of Protected Areas; (b) Plan to Support Environmental Land Use</i>	100%								Target (i) Modification of the Mocoa Basic Land Use Plan (PBOT) and the San Francisco Land Use Scheme (EOT)	To be verified through Agreements of the Municipal Councils of Mocoa and San Francisco modifying the land use plans to include the new protected areas designated.
								100%	Target (ii) Construction of the Mocoa Water Theme Park	To be verified through status reports on construction of the park by the environmental authority (progress of work by the contractor and inspection reports). INVIAS will deliver the property to the environmental authority with utilities and basic facilities.
Output 2: <i>Conservation and sustainable development of protected areas through implementation of: (a) Plan to Support the Conservation of</i>	45 ha	45 ha							Target (iii) Purchase of 90 ha as compensation for taking part of the forest reserve	To be verified through title deeds obtained by INVIAS and the inter-agency agreement signed to surrender those properties to the environmental authority.

Biodiversity; (b) Plan for Institutional Strengthening and Better Governance				500 ha				560 ha	Target (iv) Reforestation of 1,060 ha as compensation for use of forest in the right of way	To be verified through annual reports submitted by INVIAS on the status and condition of the reforested areas.
	100%								Target (v) Formation of the Protected Areas Conservation Unit (UCAP) in the environmental authority	To be verified with the environmental authority's administrative resolution, to create the UCAP.
Output 3: <i>Linking the community to protection of protected areas through implementation of:</i> (a) Plan to Improve Quality of Life through Sustainable Projects; (b) Plan to Support Indigenous Communities				50%				50%	Target (vii) At least two sustainable productive projects or projects to replace activities that are not compatible with the protected areas are in progress.	To be verified through annual reports prepared by the environmental authority on implementation of the PMASIS, which should indicate the status and outcomes of implementation of the productive projects.
				50%				50%	Target (viii) Implementation of priority projects agreed with indigenous communities in the Sibundoy Valley.	To be verified through agreements signed by the environmental authority and indigenous communities for the development of priority projects, as well as through annual reports prepared by Corpoamazonia on implementation of the PMASIS, to indicate the status of those projects.
Output 4: <i>Operation, supervision, and oversight of protected areas through implementation of:</i> (a) Plan for Supervision, Oversight, and Monitoring of Reserve			30%			30%		40%	Target (ix) Implementation of the three priority actions of the Plan for Supervision, Oversight, and Monitoring of Reserve Areas.	To be verified through formation of the following groups by Corpoamazonia in year one: (i) forest rangers; (ii) control posts for the reserve area; and (iii) the purchase of satellite imagery, software, and computer equipment for photogrammetric monitoring of the

Areas; (b) Road Safety Program										reserve area.
	100%								Target (x) Safety audit of the road design.	To be verified through the road safety audit report prepared by INVIAS.

COLOMBIA
SAN FRANCISCO-MOCHOA ALTERNATE ROAD CONSTRUCTION PROJECT
(CO-L1019)

Ref. No.	Category and description of the procurement contract	Estimated cost (US\$)	Estimated cost (US\$)	Procurement method	Review	Source of		Estimated dates		Status	Comments
						financing					
						IDB	Other	Publication of	Completion of		
WORKS											
1	Civil works-construction of 45.6 km alternate road	176,870,000	176,870,000	ICB	Ex ante	20%	80%	I Sem 2010	I Sem 2018	-	INVIAS executes
CONSULTING SERVICES											
2	Inspection of civil works (alternate road)	12,226,000	12,226,000	QCBS	ex ante	20%	80%	I Sem 2010	I Sem 2018	-	INVIAS executes
3	Construction management – Mocoa section	500,000	500	NICQ	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
4	Financial accounting audit	60,000	60,000	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
5	Studies to identify property to be purchased and areas to be reforested	17,400	15,662	NICQ	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
6	Study to research priority, prohibited, or threatened plant and animal species	200,800	187,942	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
7	Project to support implementation of Avoided Deforestation, Payment for Environmental Services, and Clean Development Mechanism (CDM) initiatives	18,125	16,314	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
8	Training and dissemination of information for inspections and community participation	174,000	156,618	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
9	Technical Environmental Committee of Experts	58,000	52,206	ICQ	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
10	Studies of financing alternatives and training for INVIAS personnel	25,000	22,503	QCBS	ex ante	100%	0%	I Sem 2011	II Sem 2011	-	INVIAS executes

11	Supplemental studies on expansion of the reserve	348,000	313,237	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corporación para el Desarrollo Sostenible del Sur de la Amazonía [Corporation for Sustainable Development of Southern Amazonia] (Corpoamazonia) executes
12	Support for reformulation of the Mocoa Basic Land Use Plan (PBOT) and the San Francisco Land Use Scheme (EOT)	40,600	36,544	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
13	Studies to reformulate the Río Mocoa and Río Blanco Basin Management and Use Plan (POMCA)	208,800	187,942	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
14	Training courses for personnel from the Protected Areas Conservation Unit (UCAP)	31,900	28,713	QCBS	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
GOODS											
15	Purchase of 90 ha of private property outside the forest reserve	522,000	469,855	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
16	Restoration of 95 ha on public lands within the forest reserve	58,000	52,206	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
17	Propagation of priority, prohibited, or threatened plant and animal species	191,400	172,280	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
18	Supply of monitoring resources and equipment for INVIAS	62,500	56,257	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011		INVIAS executes
19	Support for compensation for purchase of land in the right of way	290,000	261,031	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes
20	Support for the Sociedad Latinoamericana de Unidades Ambientales de Transporte [Latin American Society of Environmental Units in the Transportation Sector] (SLUAT) meeting to be held in Colombia	58,000	52,206	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	INVIAS executes

21	Supply of resources and equipment for UCAP personnel	66,700	60,037	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
22	PMASIS Coordination Unit	451,008	405,955	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
23	Implementation of productive projects	232,000	208,825	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
24	Program to support priority projects of indigenous communities	237,800	214,045	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
25	Personnel for control posts	31,320	28,191	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
26	Forest rangers	36,000	32,404	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes
27	Purchase and processing of satellite imagery	44,615	40,159	PC	ex ante	100%	0%	I Sem 2010	II Sem 2011	-	Corpoamazonia executes

Goods and works: ICB: International competitive bidding; LIB: Limited international bidding; NCB: National competitive bidding; PC: Price comparison; DC: Direct contracting; FA: Force account; PSA: Procurement through specialized agencies; PA: Procurement agents; IA: Inspection agents; PLFI: Procurement in loans to financial intermediaries; BOO/BOT/BOOT: Build, own, operate/build, operate, transfer/build, own, operate, transfer; PBP: Performance-based procurement; PLGB: Procurement under loans guaranteed by the Bank; PCP: Community participation procurement.

Consulting firms: QCBS: Quality- and cost-based selection; QBS: Quality-based selection; FBS: Selection under a fixed budget; LCS: Least-cost selection; CQS: Selection based on the consultants' qualifications; SSS: Single-source selection.

Individual consultants: NICQ: National individual consultant selection based on qualifications; IICQ: International individual consultant selection based on qualifications; ICQ: Individual consultant selection based on qualifications.