



STRATEGIC ENVIRONMENTAL EVALUATIONS AS AN INSTRUMENT FOR ENVIRONMENTAL AND SOCIAL PLANNING FOR IIRSA

ANDEAN DEVELOPMENT CORPORATION (CAF, in Spanish)

**Vice-presidency of Social and Environmental Development
Environmental Bureau**

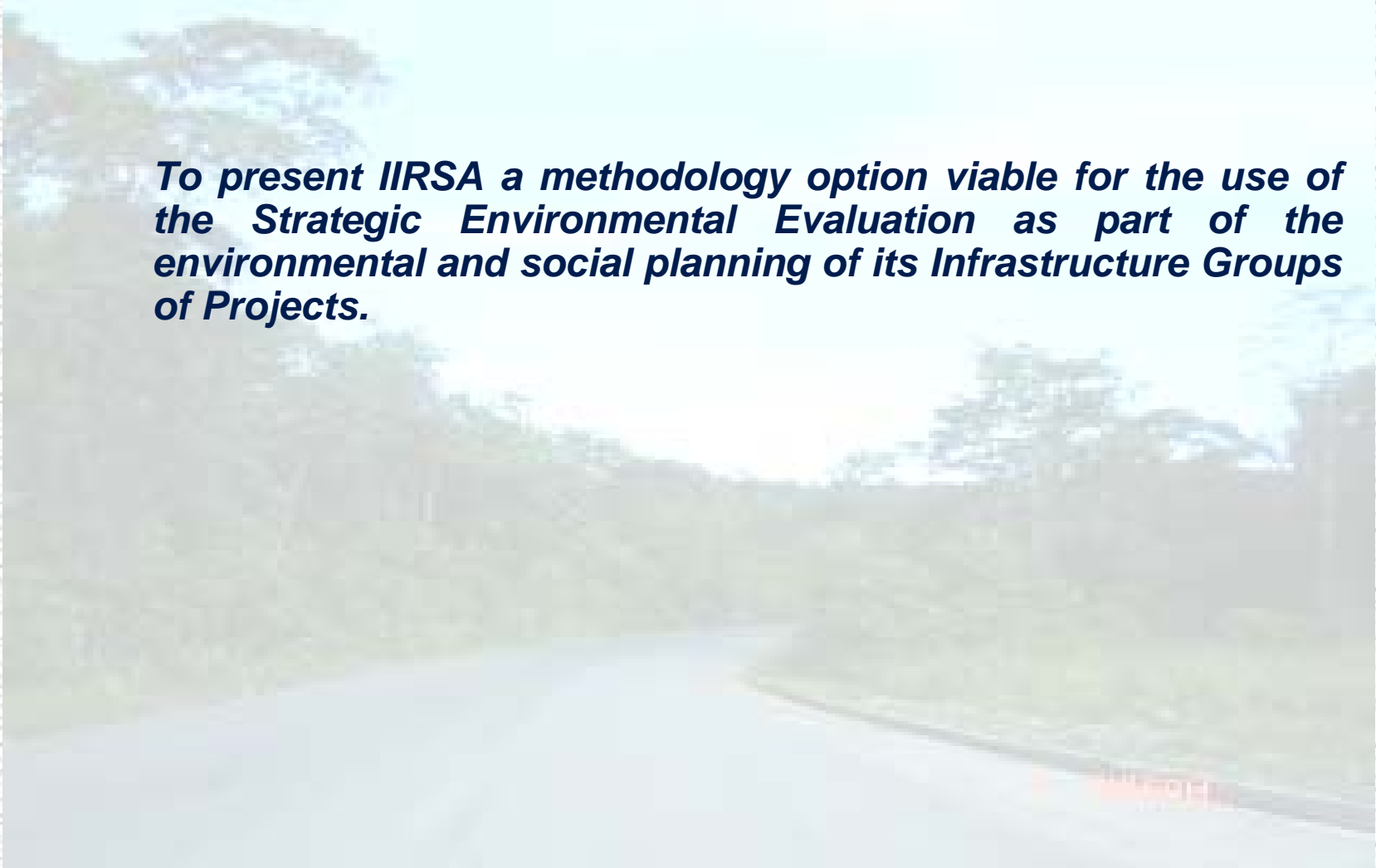
Quito, November, 2006

- December, 2005 (Asunción, Paraguay): The Executive Steering Committee (CDE, in Spanish) requests the Technical Coordination Committee (CCT, in Spanish) a pilot test on methodologies in order to deepen the analysis of Groups of Projects.
- Among the three most important topics is the strategic analysis on environmental and social impact and opportunities, whether direct or indirect ones, that may be generated in the area of influence as a consequence of the possible implementation of the projects proposed.
- The current summary shows results and proposals of the work carried out by the CCT in response to the subject matter previously mentioned.

- The following projects for the IIRSA Integration and Development Hubs were revised, for which works equivalent or similar to a Strategic Environmental Evaluation, from the point of view of their scope, were performed or are being performed:
 - Corridor Santa Cruz - Puerto Suárez, Bolivia (Central Inter-Oceanic Hub, Group 3)
 - South Inter-Oceanic Road Corridor: Perú (Perú – Brazil – Bolivia Hub, Group 1)
 - North Road Corridor: Bolivia (Perú – Brazil – Bolivia Hub, Group 2)
 - Hydroelectric Complex: Río Madeira, Brazil (Perú – Brazil– Bolivia Hub, Group 3)
 - North Amazon Road Corridor: Perú (Amazon Hub, Group 3)

- The CCT developed a methodology for the strategic socio-environmental evaluation of the Groups of Projects, which will be soon applied, and at low cost.
- This methodology would be considered as a pilot case for a Group of Projects that has not undergone an equivalent study: Group 6 of the Andean Hub.

To present IIRSA a methodology option viable for the use of the Strategic Environmental Evaluation as part of the environmental and social planning of its Infrastructure Groups of Projects.



- ***Environmental and social challenges in IIRSA highlight the convenience of a mainly preventive focus***
- ***The Group of Projects is the ideal level to be evaluated***
- ***The Groups of Projects are usually structured according to Projects under several development stages***
- ***Evaluations must provide useful criteria for the planning and subsequent environmental and social management of the Groups of Projects***

- ***Evaluations are more significant if they are carried out before the approval / beginning of the infrastructure works***
- ***The development of the evaluations and their validation must involve an institutional and public participation process***
- ***Evaluations must be available relatively soon***
- ***The cost of the evaluations must be reasonable***

- ***General presentation and characterization of the projects that make up the Group of Projects***
- ***Preliminary compilation of environmental and social information***

Regional infrastructure:

Neo-economic mobility and connectivity

Reliability of the energy supply

Competitiveness of the energy costs

Existence and effectiveness of energy inclusion programs as well as digital programs

Conflicts of infrastructure with environmental and social aspects

Regional profitable development:

Dominant and potential economic activities

*Service supply for the global information,
knowledge and tourism networks*

Importance of the private sector in the region

Regional initiatives for staff and business training

*Mechanisms for the development and technical support of
small and micro-producers*

*Replication of actions that show sustainable production
in traditional communities and human settlements.*

Territorial zoning and land possession (cont.):

Regional development plans.

Regional territorial zoning and territorial use plans.

Land possession.

Municipal urban zoning plans.

Integral management of hydrographic basins.

Sustainable management of natural protected areas.

Sustainable management of socio-cultural protected areas.

Areas of ecological importance without legal protection.

Areas of socio-cultural importance without legal protection.

Social unrest due to access / possession of regional and local natural resources (land, water).

Opportunities for social and cultural development.

Basic services and regional and local institutionalization process:

Quality of the basic existing services (drinking water, sewer system, solid garbage, electricity, telephony, transportation, education, health).

Limitation to keep/improve the quality of the existing basic services (drinking water, sewer system, solid garbage, electricity, telephony, transportation, education, health) in view of the regional/local growth of the population.

Operative capacity of public institutions (national, regional and local ones) in order to execute, monitor and/or control the territory.

Basic services and regional and local institutionalization process (cont.):

Operative capacity of other national, regional and local institutions to execute, monitor and/or control (non-governmental organizations, civil society and similar).

Key public institutions depend on budgetary allocations from the central government.

Capacity to mobilize and articulate partners/international cooperation.

Site work in the area of the Group of Projects

Verification of information previously known

Gathering of additional information (correction and/or complement)

Varying duration depending on access and geographic extension

The following topics must be given priority: ecosystems, protected areas, native towns, possession of the land, populated centers, basic services, official parties, and non-governmental parties, institutionalism, productive activities, articulations and other projects planned or in progress different from the IIRSA ones.

It must be carried out by a team of qualified and competent professionals

Summary of risks and opportunities of strategic action

Development on environmental and social description of the area of the Group of Projects.

Identification and proposal of critical aspects that allow to understand the risks that the Group of Projects represents from the environmental and social point of view.

Recognition of opportunities related to the precaution/mitigation of the critical aspects.

Identification of possible local/regional/national parties relevant for the formulation and execution of programs, plans and projects related to the environmental and social management.

Identification of environmental and social programs, plans and strategic projects

Definition of the kind of environmental and social management required by the Group of Projects in order to prevent/mitigate the risks/impacts identified in the previous stages.

Development of programs, plans and projects together with relevant parties that were selected from the ones previously identified.

Determination of the preliminary associated cost in order to know the investment amounts needed and the possible financing mechanisms for the environmental and social management in the Group of Projects.

Proposal for the negotiation of financial mechanisms destined to the execution of the strategic programs

Although it is not a part of the environmental and social evaluation, it is associated to the putting into practice of the conclusions and recommendations it expresses.

Establishing of possible financing resources (governments, multilateral organizations, etc.).

Pilot Case: Group 6 of the Andean Hub (Connection: Colombia – Ecuador II, Bogotá – Mocoa – Tena – Zamora – Palanda – Loja).

Due to many practical limitations, the site mission was restricted to the Ecuadorian territory; that is why the Colombian special features of the Group of Projects were not analyzed.

Characteristics of the Group of Projects

The Ecuadorian segment of the Group 6 of the Andean Hub is composed of a border crossing project (San Miguel, Ecuador – Colombia border), many road projects between this place and Palanda (Ecuador – Perú border), and an airport in Zamora.

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Grupo 6: Conexión Colombia - Ecuador II (Bogotá - Mocoa - Tena Zamora - Palanda - Loja)



Proyectos	
	Proyecto Ancla: Paso de Frontera de San Miguel (CEBAF) y sus accesos
	Mocoa - Santa Ana - San Miguel
	Narupa - Guamaniyacu
	Bella Unión - Plan de Milagro
	Construcción de la carretera Zamora - Palanda
	Ampliación del Aeropuerto de Zamora



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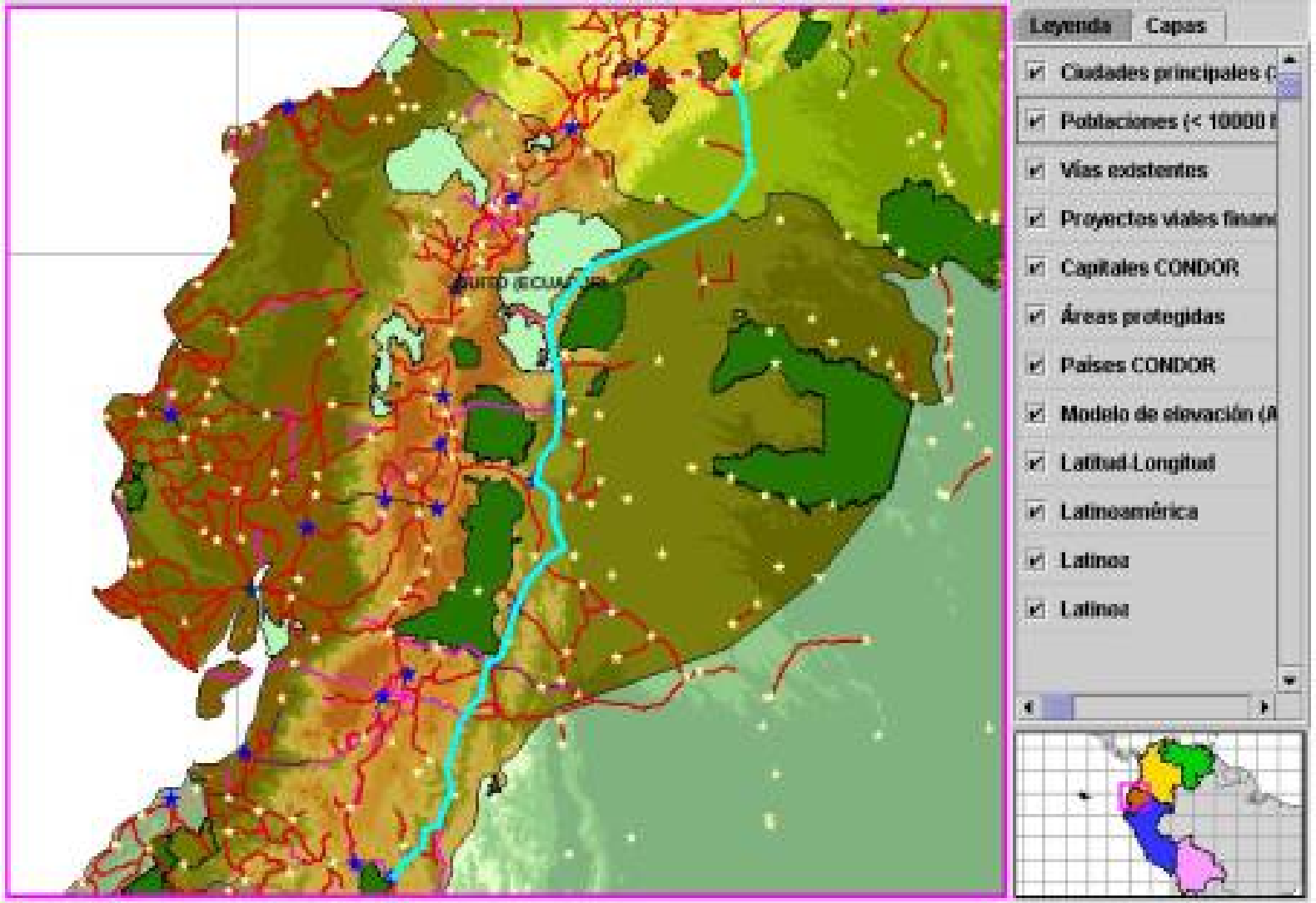
Compilation of cabinet information

Internet web sites.

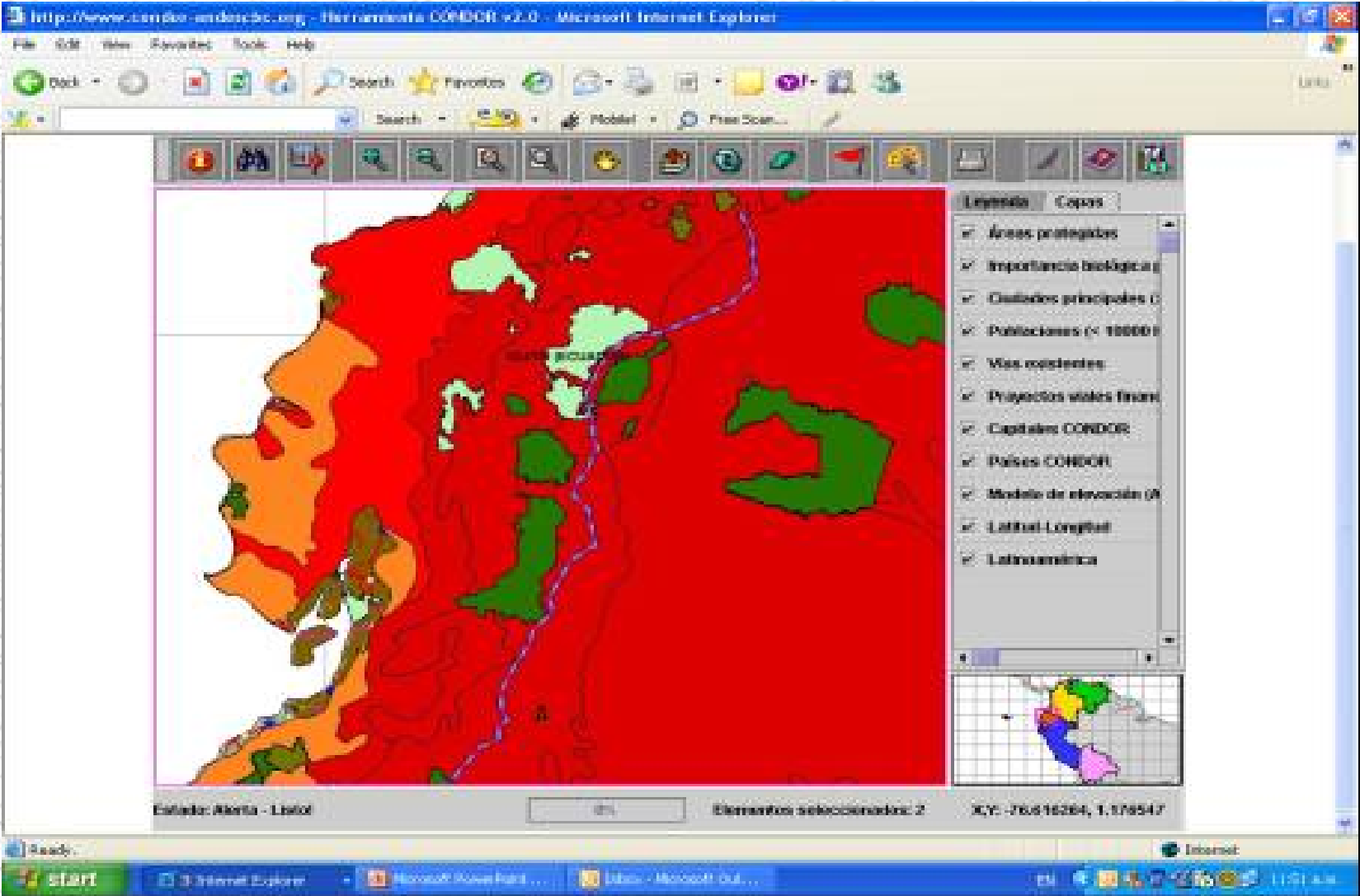
Application of the Cónдор Geographic Information System (CAF): Report on an analysis related to the approximate layout of the roads that compose the Group of Projects 6, with the thematic layers of populated centers, main road services, relief and protected areas.

An alert report provided by the Cónдор Geographic Information System allowed to know the presence, in the area of influence, of the Group of Projects of the Protected Areas: Ecologic Reserve: Cayambe - Coca, Ecologic Reserve: Antisana, Sangay National Park, Podocarpus National Park and Sumaco – Napo – Galeras National Park; and to take into consideration the high importance of their biodiversity (Napo Rain Forest and Bosques Montanos Oriente Cordillera Real - Forest).

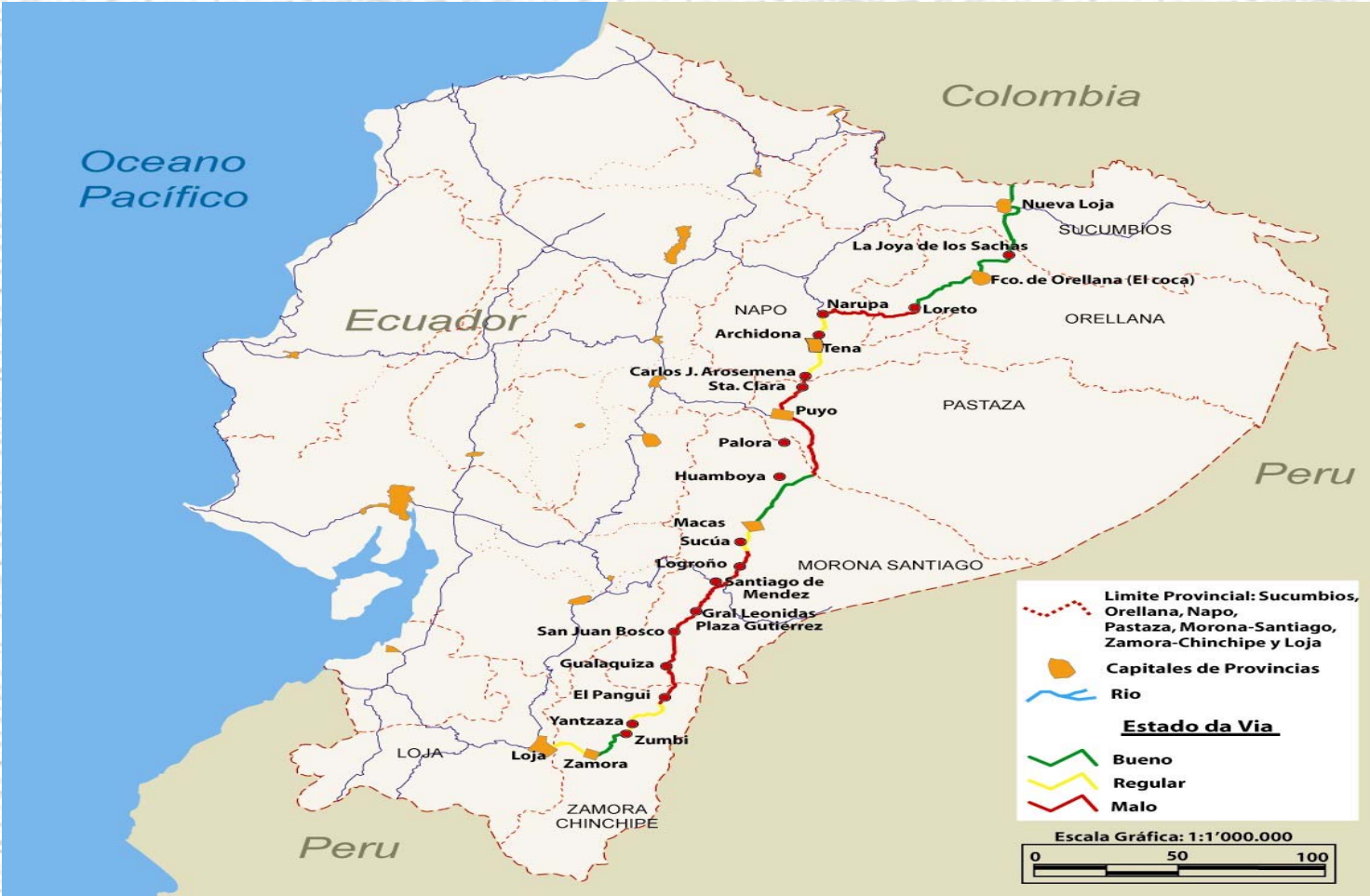
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Current Situation



Articulations





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Site visit to the area of influence

Team made up of 3 professionals (Pedro Bara - Advisor VIN-CAF; Mario Hurtado - Advisor DMA – CAF – Ecuador; and Alfredo Paolillo - Chief Executive DMA - CAF).

Duration: 8 days (June 28th – July 5th, 2006).

Itinerary: Quito – Coca (by plane), Coca – San Miguel – Tena – Puyo – Macas – Sucúa – Santiago de Méndez – Gualaquiza – Zamora – Loja (by road), and Loja – Quito (by plane).

Institutions interviewed during the site mission

- 16 governmental organizations as well as productive and non-governmental organizations.

- 1. Environmental Impact Bureau, Ministry of Public Works (Dirección de Impactos Ambientales, Ministerio de Obras Públicas). Quito*
- 2. Environmental Planning Bureau, Ministry of the Environment (Dirección de Planificación Ambiental, Ministerio de Ambiente). Quito*
- 3. Natural Capital Bureau, Ministry of the Environment (Dirección de Capital Natural, Ministerio de Ambiente). Quito*
- 4. Natura Foundation (Fundación Natura). Quito*
- 5. System of Economic and Social Indicators (Sistema de Indicadores Económicos y Sociales). Quito*
- 6. General Maritime Bureau (Dirección General de Intereses Marítimos). Quito*
- 7. Sugar Cane Agroindustrial Cooperative (Cooperativa Agroindustrial de la Caña de Azúcar). Fátima*
- 8. Planning Bureau, Provincial Council of Morona Santiago (Dirección de Planificación del Consejo Provincial de Morona Santiago). Macas*
- 9. Department of Integral and Rural Development and the Environment, Provincial Council of Morona Santiago (Departamento de Desarrollo Rural Integral y Medio Ambiente del Consejo Provincial de Morona Santiago). Macas*
- 10. Ministry of the Environment, Province of Morona Santiago (Ministerio del Ambiente de la Provincia de Morona Santiago). Macas*

Institutions interviewed during the site mission (cont.)

- 11. Bureau of the Sangay National Park, (Ministry of the Environment) – Dirección del Parque Nacional Sangay (Ministerio del Ambiente). Macas*
- 12. National Bureau of Mining, (Ministry of Energy and Mining, Province of Zamora Chinchipe) - Dirección Nacional de Minería (Ministerio de Energía y Minas de la Provincia de Zamora Chinchipe). Zamora*
- 13. Zamora Technical Office, Ministry of the Environment (Oficina Técnica Zamora del Ministerio de Ambiente). Zamora*
- 14. Environmental, Agricultural and Tourism Bureau, Provincial Council of Zamora Chinchipe (Dirección Ambiental, Agropecuaria y Turística del Consejo Provincial de Zamora Chinchipe). Zamora*
- 15. Provincial Council of Zamora Chinchipe (Consejo Provincial de Zamora Chinchipe). Zamora*
- 16. Arcoiris Foundation (Fundación Arcoiris). Loja*



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Compiled/examined documentation during the site mission

- *38 documents and other printed and electronic information*

Reviewed internet information

- *37 web sites*

Identified productive activities

Support services to petroleum activities in Coca.

Petroleum activities in Coca - Lago Agrio (Nueva Loja).

Cultivation of African palm tree in the region of Coca-Lago Agrio (Nueva Loja), El Eno and Río Payamino.

Identified productive activities

Cow stockbreeding in the region of Lago Agrio-San Miguel, San Sebastián del Coca, Río Payamino, Carlos Julio Arosemena, Pomona-Puyo and Río Pastaza-Río Upano, Chinimbimi-Méndez, Cambanaca-El Rosario, Plan de Milagro-San Juan Bosco and Gualaquiza-Zamora.

Agriculture in the region of Lago Agrio-San Miguel.

Cultivation of coconuts, corn, banana and cocoa in the region of El Eno.

Cultivation of corn in the region of Río Huataraco.

Cultivation of sugar cane in the region of Cajabamba-Fátima.

Cultivation of sugar cane and yucca in the region of Pomona-Vencedores.

Cultivation of papaya in the region of San Luis-Tesoro.

Metal recycling (scrap) in the region of La Joya de Los Sachas.

Logging and carpentry in the region of La Joya de Los Sachas

Identified productive activities (cont.)

Pisciculture (tilapia and cachama) in the region of La Joya de Los Sachas, Río Payamino and between Macas and Santa Marianita.

Recreation (aquatic parks, zoos, botanic gardens) in the region of La Joya de Los Sachas, Cotundo and Puyo.

Malanga packing company in the region of San Sebastián del Coca.



Identified productive activities (cont.)

Cleaning-up of hydrocarbon spillage in the region of San Sebastián del Coca.

Tourism/ecotourism in the region of Nuevo Rocafuerte, Río Payamino, Río Suno, Pasohurco, Archidona, Puerto Misabradi, Cajabamba, Fátima, Pomona, Zamora.

Naranjillo crop in the region of Sumaco.

Production of brown sugar from sugar cane in the region of Fátima, Pomona-Vencedores.

Production of milky by-products (cheese and milk) with local trademark in Puyo.

Production of bricks between Macas and Santa Marianita.

Protected areas identified in the area of indirect influence

1. *Sumaco-Napo-Galeras Biosphere Reserve.*
2. *Sangay National Park.*
3. *Cóndor National Park.*
4. *Podocarpus National Park.*
5. *Antisana Ecologic Reserve.*
6. *Cayambe-Coca Ecologic Reserve.*
7. *Cotococha Buffer Forest.*
8. *Cutucú Buffer Forest.*
9. *Tinajillas-Río Gualaceño Buffer Forest.*
10. *Sakimi Buffer Forest.*
11. *Río Blanco Buffer Forest.*
12. *Tuna Carama Buffer Forest.*
13. *Alto Nangaritza Buffer Forest.*

New potential protective areas and/or under proposal processes

1. *Podocarpus Biosphere Reserve.*
2. *Ecologic corridor between Cónдор National Park and Cutucú Buffer Forest.*
3. *Legal status without specification, between Cónдор and Palanda.*
4. *Legal status without specification, in Tres Picachos, Las Sabanas and Chito – high zone (Cantones de Palanda and Chinchipe).*

Risks/impacts identified during the site mission

1. *Deforestation in order to grow pasture for cattle in most of the area of the Group of Projects.*
2. *Occupation of territory in order to set up recreational country houses as a part of the expansion of Quito in the region of El Chaco, located between the Sumaco-Napo-Galeras Biosphere Reserve and the Cayambe Coca Ecologic Reserve.*
3. *Environmental and social management that is not adequate due to petroleum activities (polluted areas because of spillage and social conflicts).*



Risks/impacts identified during the site mission (cont.)

4. *Much peopling in the region of Coca-Lago Agrio-General Farfán, Río Payamino (very recent and with high level of marginal inhabitants) and Río Huataraco.*
5. *Drug traffic and kidnapping due to guerrilla forces in the region of the San Miguel border crossing.*
6. *Inadequate health services.*
7. *Inadequate electric supply.*
8. *Invasion attempts in the Tusumbay sector of the Sangay National Park (extra-activist activities).*
9. *Illegal metal and non-metal mining in the San Luis, Quebrada de Las Minas and Sabanillas sectors of the Podocarpus National Park.*
10. *Illegal extraction of wood from the Podocarpus National Park (more than 1000 people devoted to this activity).*

Risks/impacts identified during the site mission (cont.)

- 17. The Sangay National Park is in trouble due to invasions and is threatened because of projects aimed at the construction of new roads, which would cross the park in the regions of Sucia-Shoray and Pablo Sexto-Chambo.*
- 18. The Podocarpus National Park has an outdated management plan, which is not implemented and has problems related to illegal mining, illegal wood logging and illegal production of cattle.*
- 19. The Ministry of the Environment lacks logistics and also the economic resources to guard the areas and the work performed with the local communities.*

Opportunities identified during the site visit

- 1. Tourism/ecotourism almost in all the area of influence.*
- 2. Creation of new protected natural areas, particularly in the Province of Zamora Chinchipe, in order to protect their high biological value and reduce current threats related to non-sustainable activities.*
- 3. Improvement of the existing management of protected areas.*
- 4. Binational management of protected natural areas.*
- 5. Less conflicts with indigenous towns.*
- 6. Improvements in health, electricity and drinkable water.*
- 7. Regional/local added value for the agricultural production and the autochthonous biodiversity (naranjillo, natural tinctures and medicinal plants).*

Opportunities identified during the site visit (cont.)

8. *Improvement of the sustainable forest production and reduction of illegal activities in the Province of Zamora.*

9. *Strengthening of the competence decentralization process related to the environmental and social management, which started in the year 2002, as regards the provinces of Sucumbíos, Napo, Orellana, Pastaza, Morona Santiago and Zamora Chinchipe.*

10. *Initiative strengthening by the regional and local non-governmental organizations (agroforestry, natural products, environmental education, work with local Creole and indigenous communities, creation and management of protected areas, tourism/ecotourism, recycling, environmental quality).*

11. *Contribution to the sustainable management of mining production in the Cónдор Mountain Range.*

Relevant institutions to be considered for the identification /formulation /execution of plans, programs and projects

1. *Ministry of Energy and Mining (Ministerio de Energía y Minas).*
2. *Ministry of Public Works and Communications (Ministerio de Obras Públicas y Comunicaciones).*
3. *Ministry of the Environment (Ministerio del Ambiente).*
4. *Ministry of Tourism (Ministerio de Turismo).*
5. *Frente Social.*
6. *Provincial Council of Morona Santiago (Consejo Provincial de Morona Santiago).*
7. *Provincial Council of Napo (Consejo Provincial de Napo).*
8. *Provincial Council of Orellana (Consejo Provincial de Orellana).*
9. *Provincial Council of Pastaza (Consejo Provincial de Pastaza).*
10. *Provincial Council of Sucumbíos (Consejo Provincial de Sucumbíos).*
11. *Provincial Council of Zamora Chinchipe (Consejo Provincial de Zamora Chinchipe).*
12. *Ecuador Mining Chamber (Cámara Minera del Ecuador).*
13. *Technical Support Service for Forest Management (Servicio de Asistencia Técnica para el Manejo Forestal).*
14. *Municipal Government of Coca (Gobierno Municipal de Coca).*

Relevant institutions to be considered for the identification /formulation /execution of plans, programs and projects (cont.)

15. *Municipal Government of Macas (Gobierno Municipal de Macas).*
16. *Municipal Government of Tena (Gobierno Municipal de Tena).*
17. *Municipal Government of Zamora (Gobierno Municipal de Zamora).*
18. *Institute for the Regional Ecodevelopment of the Amazon (Instituto para el Ecodesarrollo Regional Amazonico).*
19. *Ecuadorian Technical University for the Ecodevelopment of the Amazonia (Universidad Técnica Ecuatoriana para el Ecodesarrollo de la Amazonia).*
20. *International Conservation (Conservación Internacional).*
21. *Antisana Foundation (Fundación Antisana).*
22. *ATASIM Foundation (Fundación ATASIM).*
23. *Arcoiris Ecological Foundation (Fundación Ecológica Arcoiris).*
24. *Ecuadorian Foundation for Ecological Studies (Fundación Ecuatoriana de Estudios Ecológicos).*
25. *Natura Foundation (Fundación Natura).*
26. *Local Initiative Service for the Ecuadorian Amazonia (Servicio de Iniciativa Local para la Amazonia Ecuatoriana).*
27. *Amazon Forest Service Foundation (Fundación Servicio Forestal Amazonico).*
28. *The Nature Conservancy.*
29. *World Wildlife Fund*

Identification of environmental and social programs, plans and projects

1. *Program for the Reinforcement of Adventure and Nature Tourism*
2. *Program for the Support of the Protected Natural Areas*
 - a. *Plan for New Protected Areas in Zamora Chinchipe*
 - b. *Plan for the Reinforcement of the Protected Natural Areas Management*
 - *Project for the Support of the Management of: Podocarpus National Park, Sangay National Park and Cutucú Buffer Forest*
 - *Project for the Binational Management of Protected Areas in Serranía El Cóndor*
3. *Program for the Support of Indigenous Towns*
4. *Investment Program related to Basic Services*

Identification of environmental and social programs, plans and projects (cont.)

5. *Program for Production Improvement*
 - a. *Plan for the Support to the Sustainable Mining Production in El Cónдор mountain range.*
 - b. *Plan to Add Regional Value to the Agricultural Production*
 - *Project for Processing Meat and Milk Products*
 - c. *Plan for the Sustainable Use of Biodiversity*
 - *Project for Improving Forest Production*

6. *Program for the Support of the Competence Decentralization Process related to Environmental and Social Management*

Approximate cost of the pilot case (Group 6 of the Andean Hub)

. USD 25,000.

. Includes planning, site mission and document development.

. Includes the fees of the 3 professionals, the air tickets: Caracas – Quito - Caracas (2), Quito - Coca and Loja - Quito (3), the traveling expenses of the 3 professionals (7 days) and land transportation.

. It does not include costs related to the Colombian sector of the Group 6 of the Andean Hub.

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- 1) *Methodology is useful for the IIRSA environmental and social purposes.*
 - 2) *Methodology allows the strategic analysis of Groups of Projects, but it requires a minimum of 4 professionals and 3-4 months work per Group of Projects.*
 - 3) *To prioritize the Groups of Projects taking criteria as a base.*
 - 4) *To establish a schedule to develop progressively the Strategic Environmental Evaluations of Groups of Projects.*
 - 5) *In the case that a Group of Projects has a project that has not been started, an analysis of the alternatives (scenarios or options) must be carried out, including the absence of a project, the change in the original plan and the improvement of similar projects under operation.*

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- 6) *It must be avoided the financing of long-term and expensive baseline studies as a part of the Strategic Environmental Evaluations of the Groups of Projects.*
 - 7) *The site missions to the areas of the Groups of Projects must be part of the process to develop high-quality Strategic Environmental Evaluations in IIRSA.*
 - 8) *Search with all the interested possible parties must also be an integral part for the development of the Strategic Environmental Evaluations of the Group of Projects.*