

**Document of
The World Bank**

Report No: 23299 -BR

**PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN
IN THE AMOUNT OF US\$62.8 MILLION
TO THE
STATE OF SANTA CATARINA
WITH THE GUARANTEE OF THE
FEDERATIVE REPUBLIC OF BRAZIL
FOR A
NATURAL RESOURCE MANAGEMENT AND
RURAL POVERTY REDUCTION PROJECT**

March 27, 2002

**Brazil Country Management Unit
Environmentally and Socially Sustainable Development Unit
Latin America and the Caribbean Regional Office**

CURRENCY EQUIVALENTS
(Exchange Rate Effective February 1, 2002)

Currency Unit	=	Real (R\$)
R\$1.00	=	US\$ 0.41
US\$1.00	=	R\$ 2.43

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ANA	-	National Water Agency
APL	-	Adaptable Program Loan
CAS	-	Country Assistance Strategy
CCE	-	Project Deliberative Committee at the State Level
CCR	-	Project Deliberative Committee at the Regional Level
CCM	-	Project Deliberative Committee at the Municipal Level
CedeRural	-	State Rural Development Council
CELESC	-	Santa Catarina Electric Power Company
CEPIN	-	State Indigenous Council
CIMI	-	Indigenous Missionary Council
CIRAM	-	Center for Environmental Resources
CMDR	-	Municipal Rural Development Council
CPPA	-	State Environmental Police
EA	-	Environmental Assessment
EE	-	Environmental Education
EMP	-	Environmental Management Plan
EPAGRI	-	State Agricultural Research and Rural Extension Enterprise
FATMA	-	State Environmental Management Foundation
FIRR	-	Financial Internal Rate of Return
FMR	-	Financial Monitoring Report
FUNAI	-	National Indigenous Foundation
GEF	-	Global Environment Facility
GOSC	-	Government of Santa Catarina
IBRD	-	International Bank for Reconstruction and Development
ICB	-	International Competitive Bidding
ICEPA	-	State Institute of Agricultural Planning and Agro-Economics
ICMS	-	<i>Imposto sobre Circulação de Mercadorias e Serviços</i>
IDB	-	Inter-American Development Bank
IDS	-	Index of Social Development
IERR	-	Internal Economic Rate of Return
IP	-	Indigenous People
LCSES	-	Environmentally and Socially Sustainable Development Unit
LM II	-	Land Management II Project
M&E	-	Monitoring and Evaluation
MA	-	Microcatchment Association
MIS	-	Management Information System
NCB	-	National Competitive Bidding
NRM	-	Natural Resources Management
PA	-	Protected Area
PMR	-	Project Management Report
PMU	-	Project Management Unit
POA	-	Annual Operation Plan
PRONAF	-	National Small Holder's Agricultural Program

PZP	-	Park Zoning Plan
QAT	-	Quality Assurance Team
QCBS	-	Quality and Cost Based Selection
RDF	-	State Rural Development Fund
RIF		Rural Investment Fund
SDM	-	State Secretariat for Urban Development and Environment
SDA	-	Secretariat for Rural Development and Agriculture
SEE	-	State Executive Unit
SEUC	-	State Protected Areas System
SOE	-	Statement of Expenditures
SRN	-	Secretariat of National Treasure
TOR	-	Terms of Reference
VAT	-	Value-added Tax
WMP	-	Watershed Management Plan

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Brazil
Santa Catarina
Natural Resources Management and Rural Poverty Reduction Project

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BRAZIL
Santa Catarina
Natural Resources Management and Rural Poverty Reduction Project

Project Appraisal Document

Latin America and Caribbean Region
Brazil Country Management Unit

Date: March 27, 2002	Task Team Leader: Graciela Lituma
Country Director: Vinod Thomas	Sector Director: John Redwood
Project ID: P043869 Sector: Natural Resources Management	Program Objective Category: Poverty Alleviation
Lending Instrument: Specific Investment Loan (SIL)	Program of Targeted Intervention: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Project Financing Data	<input checked="" type="checkbox"/> Loan	<input type="checkbox"/> Credit	<input type="checkbox"/> Guarantee	<input type="checkbox"/> Other [Specify]		
Amount (US\$m): 62.8						
Proposed terms:	<input type="checkbox"/> Multicurrency	<input checked="" type="checkbox"/> Single currency, US\$				
Grace period (years): 5	<input type="checkbox"/> Standard Variable	<input type="checkbox"/> Fixed	<input checked="" type="checkbox"/> LIBOR-based			
Years to maturity: 15						
Commitment fee: 0.75% p.a. on undisbursed balances, beginning to accrue 60 days after signing.						
Service charge: 1%						
Financing plan (US\$m):						
Source		Local	Foreign	Total		
State Government		44.7	0.0	44.7		
IBRD		57.4	5.4	62.8		
	Total	102.1	5.4	107.5		
Borrower: State of Santa Catarina						
Guarantor: Federative Republic of Brazil						
Responsible agency(ies):						
• State of Santa Catarina / Secretariat for Rural Development and Agriculture of Santa Catarina						
Estimated disbursements (Bank FY/\$M):	<u>2003*</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Annual:	7.4	10.2	10.6	13.2	11.8	9.6
Cumulative:	7.4	17.6	28.2	41.4	53.2	62.8
* Includes retroactive financing of up to US\$3.0 million for eligible expenditures incurred after January 18, 2002 but not earlier than 12 months before loan signing.						
Expected Effectiveness Date: June 30, 2002			Closing Date: December 31, 2008			

A: Project Development Objective

1. Project development objective (see Annex 1):

Background: During the 1980s, the Brazilian southern states became increasingly concerned with declining soil productivity and increasing water pollution. These problems in rural areas were attributed to inadequate land management practices and policies. The rapid expansion of the cultivated areas during the “green revolution” of the previous decade, involving large-scale deforestation, followed by the application of inappropriate mechanization technologies, led to severe soil erosion, rapid land degradation and increasing river silting. In a search for sustainable solutions to this problem during much of the 1990s, the Bank financed a series of pioneer state projects that supported innovative technical approaches for soil conservation in southern Brazil, one of which was the Santa Catarina Land Management II Project (LM II, Loan 3160-BR). This project aimed to increase agricultural production and productivity in selected areas of the State. By design, it concentrated its efforts in areas with the highest susceptibility to soil erosion. It did not contain specific targeting mechanisms to benefit poor people. The project, and its predecessor, the Parana Land Management I Project (Loan 3018-BR), were highly successful in expanding the adoption of improved practices and, in so doing, increased the productivity of staple crops and reduced soil loss. Runoff water in streams contained fewer suspended solids, coliform bacteria and pesticide residues, thus lowering silting and water treatment costs in downstream areas and reducing the incidence of water-borne diseases and pesticide poisoning. LM II also demonstrated the effectiveness for project implementation of a community-based participatory approach, using the microcatchment as the basic unit for physical planning. It also helped to catalyze changes in the philosophy and modus operandi of Santa Catarina’s rural support services and agricultural research towards more environmentally sound and participatory approaches, increasing its relevance and impact.

Brazil’s decision to join Mercosur and macroeconomic adjustments placed all farmers in open competition with large-scale farmers elsewhere, negatively affecting their profitability during the mid- to late 1990s. Ex-post evaluation of the LM II project shows that farmers who adopted improved land management practices suffered smaller declines in income than those who did not. Marginal and poorer farmers, who did not significantly benefit from the project, were among the worst affected by falling agricultural profits. More recently, the flexible exchange rate regime and the devaluation of the Real, together with lowering of interest rates, gave a slight boost to Brazil’s agricultural sector, in particular to export products.

Rural incomes have declined further and faster than urban incomes during recent economic crises. Furthermore, prices for staple crops of small-scale farmers are forecast to continue to decline throughout the present decade. About 25% of the State’s population lives in rural areas, of which about 38% live below the poverty line. For over 90% of the rural population, farming is their main economic activity. Among the southern states, Santa Catarina has the highest proportion of very small-scale farms. As part of its effort to reduce rural poverty and recognizing the strong linkages between degradation of natural resources and rural poverty, the Government has requested Bank support to implement a follow-up operation to the successful LM II project. The proposed project will be especially targeted to assist the poorer rural population of Santa Catarina.

Project development objective: The project objective is to reduce rural poverty in the State of Santa Catarina, while improving the management of natural resources. Poor rural families’ incomes and livelihoods would be improved by: (i) support for Government efforts to integrate environmental and social sustainability into development and poverty reduction strategies; (ii) enhanced local governance and community participation in decision-making; (iii) reversed land degradation and better protection of the State’s natural resources; and (iv) improvements to income-generating opportunities and living conditions for the rural poor.

2. Key performance indicators (see Annex 1):

Progress in achieving project objectives would be monitored by specific indicators designed to demonstrate or measure the following:

- A reduction in the incidence of rural poverty in 70% of the 880 microcatchments assisted;
- Effective operation of project participating mechanisms set up at: community, microcatchment, municipal, regional and state levels;

- Improvement of natural resource management practices in all assisted microcatchments;
- Improved water quality and reduced soil loss in benefited microcatchments;
- Improved family incomes and employment among the target group; and
- Enactment and publication of State environmental regulation, its application in the design and initiation of pilot ecological corridors and protected areas.

B: Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project (see Annex 1):

CAS document number: 22116-BR

Date of latest CAS progress report discussion: May 24, 2001

The Bank's Country Assistance Strategy (CAS) of March 6, 2000 flags poverty and inequality as the most important medium- to long-term challenges for Brazil. The CAS Progress Report notes improving prospects for poverty reduction due to successful continuation of fiscal reforms, renewed economic growth and increased Government efforts to improve targeted social policies. To achieve strong, sustainable poverty reduction impacts, the CAS further recommends well-targeted poverty programs to enhance the human and physical capital of the poor, to improve social conditions and allow beneficiaries to make better use of economic opportunities, coupled with safety nets to protect from economic shocks and natural disasters. To maintain progress, decentralized approaches are advocated, under which funding and implementation responsibilities would be entrusted to states, municipalities and communities. More support to small-scale farmers, education and health are among recommendations for improvement. Environmental policies should be such as to underpin and sustain poverty reduction.

The proposed project would be fully consistent with these strategic recommendations. It would build on the achievements of the earlier LM II in promoting more sustainable farming systems and improved management of natural resources, but with increased emphasis on facilitating change among small and marginal farmers and indigenous communities and thereby reducing poverty. The participatory development approach of LM II, involving local stakeholder groups and state/municipal units of government, would be strengthened and targeting of the rural poor would be sharpened. Additional measures would be added to address specific welfare and financial constraints facing this target group, including rural employment creation and a system of matching grants. Steps would be taken to address over-arching environmental threats to the sustainability of benefits. The project would also support the CAS goals of poverty mitigation and judicious fiscal management and governance through technical assistance in support to the State's demonstrated willingness to undertake meaningful reforms.

2. Main sector issues and Government strategy:

Rural Poverty: Santa Catarina has about 2% of the country's destitute families, of which 56% live in the rural areas— a higher proportion than in any other geographical region of Brazil. About 38% of the rural households live below the poverty line, including the majority of the State's remaining indigenous populations (estimated at about 7,000 individuals). Between 1995 and 1998, national *per capita* incomes declined by about 0.4% per annum, while that of rural families fell by about 1.1%, and that of the small-scale farmers was down about 2.5%. The State of Santa Catarina has not proved to be an exception to the above-mentioned trends. National economic reforms and Brazil's decision to open its agriculture to international competition by joining Mercosur had the adverse effect of greatly exacerbated poverty among small-scale farmers. Following exposure to open competition from large-scale commercial producers elsewhere, farm gate prices and agricultural profits fell. Simultaneously, a decrease in subsidies and the limited availability and high interest rates of commercial credit worsened the predicament, particularly that of the small-scale farmer. Commercial farmers have shed labor, thus reducing opportunities of marginal farmers to improve their livelihoods by working outside the family land. These trends have fueled Brazil's rural exodus: between 1992 and 1998, about 2.4% of rural people fled their land annually and migrated to the cities. In the southern states the migration rate averages about 4.1%, with Santa Catarina following this pattern. The drastic reduction of quality of life in rural areas was also a major cause for rural migration in the State. Due to decreasing farm income, rural dwellings, in particular those of poorer farmers, are not being properly maintained and drinking water and sanitation conditions are deficient. About 25% of Santa Catarina's inhabitants live in rural areas, of which about 90% are farmers. Currently, 90% of holdings have fewer than 50 hectares and 36% are below 10 hectares. Among the southern states, Santa Catarina has the highest proportion of very small farms. About 31% of rural families earn less than two minimum wages per month; and a further 17%, between two and three.

Agricultural and Natural Resources Sector: Currently, some two million of the State's area of ten million hectares are cultivated. More than half the cropped area is under corn, with soybean and other legumes as the dominant commercial crops. Much of the cultivated area is sloping, in smallholdings, and was cleared from forest during the first half of the twentieth century. In the 1970s, intensive use of heavy cultivation machinery, agrochemicals, increasing exposure of bare soil to heavy spring rains, and the locating of pig and other livestock units close to watercourses caused accelerating erosion, as well as chemical and biological pollution of surface and ground water. Falling productivity and calamitous floods in the 1980s encouraged farmers to look towards more sustainable cultivation systems, such as reduced tillage and direct drilling, plus improved management/ disposal of livestock manure and toxic chemicals.

The Bank-supported LM II project successfully accelerated the spread of these practices during the 1990s. The creation of a Santa Catarina Rural Development Fund (RDF) in 1993 provided a channel to induce and pilot needed changes through incentives and public sector sharing of the farmers' costs, in particular of those that brought off-farm public goods benefits. LM II also demonstrated the necessity to use community participation and the microcatchment (a common drainage area typically, in Santa Catarina, of some 3,000 hectares and with a population of about 120 families) as the physical and social building block for projects to improve management of natural resources. The project was responsible for substantially increasing environmental awareness in the rural areas of Santa Catarina. About 500 microcatchments, a third of the State's area, directly benefited from LM II; additionally, the project had a substantive spillover effect. Some 450,000 hectares of agricultural land were converted to more sustainable management systems, and an effective start was made to pilot and implement integrated systems to control pesticide and bacterial pollution. Hydrology regimes were improved and a start was also made with consolidation of conservation units in critical ecological areas. As a consequence, yield of staple food increased from 20 to 50%. Hence, farmers benefited by the project were better placed to cushion some of the effects of the economic adjustment measures and the exposure to open international competition as a consequence of Brazil's decision to join Mercosur. Livelihoods of the poorest rural people, including Santa Catarina's 7,000 Indigenous People (IP), were particularly affected by these trends.

Water Management: During the 1990s, macroeconomic adjustments and the liberalization of the market have significantly contributed to accelerating farm intensification throughout the country, in particular in Santa Catarina, given the high percentage of small-scale farms in the State. The rapid expansion of pig, poultry and aquaculture production, activities that remained profitable with good markets throughout the macroeconomic adjustment period, exacerbated waste disposal problems and substantially increased water pollution. Not only has the State's pig population risen rapidly from 3 to 6 million heads, but it has also suffered a substantive concentration of animal production¹; processing plants have reduced the radius of their operations to contain transport costs and keep their competitiveness in the open market. Concerned with the environmental impact of this rapid expansion, the State is now requesting that any expansion of the pig industry has to include a plan to effectively dispose of the pig waste without negative environmental impact.

In response to increasing concern over water quality due to the accelerated expansion of the pig industry, the State Agricultural Research and Rural Extension Enterprise (EPAGRI) carried out adaptive research on mitigating environmental measures associated with fish-pig production systems in one river sub-basin, increasing the original scope of LM II. In addition, the State Environmental Management Foundation (FATMA), in close collaboration with EPAGRI and with the active participation of stakeholders, reviewed and revised the pig and pig-fish environmental licensing system to facilitate compliance by small-scale farmers. Moreover, assisted by the LM II, a new State law on aquaculture was drafted and subsequently enacted. EPAGRI also initiated adaptive research on soil and water carrying capacity to assimilate pig waste. To better respond to the increasing environmental demand of agricultural producers, the Secretariat of Agriculture created the Center for Environmental Resources (CIRAM) within EPAGRI, capitalizing on the LM II experiences and equipment gained under the project. This center consolidates, among others, geo-referenced information on weather, climate, soil and water quality. In close collaboration with FATMA and the State Secretariat for Urban Development and Environment (SDM), CIRAM is now carrying out a number of studies to identify viable solutions to mitigate environmental impacts from agricultural activities.

¹ The aforementioned expansion took place in one decade. Currently the total number of animals in SC is 4.8 million hogs, with an annual culling rate of 7.7 million. While the hog population rose, the number of producers fell from 60,000 to 18,000 during the last 20 years.

In spite of these efforts, much still remains to be done to better integrate land use with water management and overall natural resources conservation, building on the successful experiences of the LM II, where land-use management was shown to meet water resource management objectives (though these were not specific objectives of that project). The results of LM II also demonstrated that upstream farmers who arrested land degradation and supported rehabilitation activities, contributing to improved water quality and quantity downstream, could and should be compensated for their efforts. It also showed that the microwatershed commissions created under the project are important grassroots fora that could facilitate their integration into broader discussion fora at the river basin management level.

Conservation of Natural Resources: The Government has recently identified a number of other key environmental issues. Despite the richness of the Atlantic forest resources throughout the State of Santa Catarina, including five important habitat types (tropical moist broadleaf forests, *Araucaria* forests, *restingas* or coastal scrub on sandy soils, natural grasslands and mangroves), parks and reserves cover only 1% of the State territory. They are widely scattered and poorly represented by (or do not include) a number of important ecosystems, including the valuable *Araucaria* forests and *Campos* grasslands.¹ In addition, the Tabuleiro State Park, with a total area of 90,000 hectares, representing about 1% of the total and finest remnants of the country's Atlantic forest, is under threat, despite being renowned as an important habitat for terrestrial, coastal and marine biodiversity. Principal threats to the Park's ecological integrity include: (i) change and loss of *restinga* coastal habitats associated with the spread of exotic plants and with drainage of shrubs and forests for further settlement; (ii) increasing pressure to convert natural habitats into settled areas and agricultural lands due to the growing number of people and cattle inside and along the boundaries of the Park; (iii) change or loss of natural habitats due to the growth of tourism and sporting activities and to the increasing transformation of natural beaches into swimming resorts; and (iv) poaching of selected species. Protection of the State's remaining forest and wilderness areas of high environmental importance from encroachment or uncontrolled exploitation is still weak. One of the major elements that constrained the adoption of effective environmental management approaches has been a weak legal framework that "harmonizes" existing laws and policies in the sector, including: (i) the establishment of a single coherent system of Protected Areas (PAs) that represent the State's different scenery and natural features; (ii) the provision of incentives to increase the role of municipalities and the private sector in protecting the State's important endangered ecosystems; and (iii) the provision of information and means to achieve a commitment from municipal governments and the public at large to participate in the implementation of conservation management measures in compliance with the State Protected Areas System (SEUC) criteria.

The Government strategies to address the above-mentioned issues are the following:

Rural Policy: Recognizing the growing social, economic and environmental problems and associated inter-dependencies faced by small-scale producers, the State Government established in the late 1990s a new rural development policy, based on *inter alia* the lessons learned from the successful LM II Project, but placing greater emphasis on poverty alleviation. This policy also acknowledges that Santa Catarina's agrarian structure and topography constraints are not fully conducive to competitive large-scale commodity production. Instead, it will have to develop quality products to complement its economic scale with specialized products. Products differentiated by origin and quality will allow Santa Catarina's farmers to obtain better prices and consumers, as well as food safety. Within the framework of this policy, it identifies as immediate rural priorities the reduction of rural poverty, improved management of land and water resources and the control of pollution originating from farm enterprises. These aims are to be achieved by further evolution of the participatory, microcatchment-based approach of LM II, focused especially on better means to reach the rural poor and respond to their demands, and building on the innovative initiatives to resolve natural resources conflicts piloted under that project. Decentralization of financing and execution of programs will be further advanced. Needs of the poorest smallholder farmers, rural laborers and indigenous communities that were not targeted under LM II would be given special attention, in particular, financing to improve housing and sanitation, and to create alternative sources of income, including the creation of new off-farm employment opportunities. Targeted, cost-sharing grants would be used by the Government to pilot and induce necessary changes.

¹ The existing State system of parks and reserves consists of two State Parks (Tabuleiro and Serra Furada) and three Biological Reserves, covering about 100,000 hectares in 18 of the 293 municipalities of the State.

Within current resource limitations, the Government is already implementing various elements of this rural strategy, albeit on a limited scale. The participatory approaches of LM II have been adopted as state-wide practice by EPAGRI. Refinements in outreach to include the poorest rural people are being piloted in 22 microcatchments. The working links between different parts of Government and with the private and voluntary sectors developed during LM II have been maintained and, in certain cases, strengthened. To increase farmers' probabilities of obtaining differentiated prices for their agricultural products, the Government has recently passed a law instituting a system of certification of origin of agricultural and food products. As an integral part of this strategy, the State is pursuing full compliance with Federal and State pesticide legislation and is promoting organic agriculture. To promote reforestation and reduce poverty, Santa Catarina is implementing a long-term state credit program for small reforestation plots by poorer farmers, who would repay loans from eventual sales of forest products. To create alternative sources of income, the State is also implementing the RDF and a pilot micro-credit scheme mainly for poorer people, including landless workers. In addition, the State has recently initiated the "*Programa Catarinense de Inclusão Social*" whereby poorer municipalities will receive increased resources for social programs. The State is also actively participating in various ongoing Federal Government programs for rural poverty reduction, including the smallholder credit and technical support program (PRONAF). To reverse the migratory trend of rural youth, the State is also actively participating in the national *Banco da Terra* program and the Bank-financed Land-Based Poverty Alleviation Project (Loan 7037-BR) to finance purchases of land and farm development for landless and rural youth. The proposed project would help to better coordinate and target these programs to assist the poorest rural population.

Land and Water Management: Soil and water management practices promoted under the LM II helped to significantly reduce soil erosion and sedimentation and improved water quality at microcatchments level. Building on this experience, the Government strategy is now to address natural resources management in a comprehensive manner by implementing the State and National Water Sector Policies. To that end, it has divided the State into ten hydrographic regions to promote decentralized water management at the regional and municipal level but with the river basins as the planning and management unit. At present, the State has nine River Basin Committees formally constituted with the participation of major stakeholders, with five more under consolidation. In 2000, Santa Catarina established its first river basin company. With assistance from the National Water Agency (ANA), the Secretary for Rural Development and Agriculture (SDM) is currently drafting regulations of the State Water Law and, on a pilot basis, the first River Basin Management Plan. Santa Catarina is also evaluating alternatives to strengthen the institution and make it responsible for implementing the water policy in the State and to regulate and complement its various laws and regulations. There is an urgent need to closely coordinate all these efforts and to further progress with the preparation of Integrated River Basin Management Plans as the basic instrument to integrate conservation, production and social uses of water and other natural resources.

During 2000, FATMA and EPAGRI, with the active participation of all relevant stakeholders, implemented a pilot scheme to assist small-scale producers to comply with environmental legislation on one river sub-basin. It was based on initiatives carried out under the LM II to address water pollution issues associated with pig-aquaculture farming systems. This pilot is now being adapted and adopted in two additional river sub-basins with the highest concentration of pig production. The objectives of these initiatives are to determine and monitor soil and water carrying capacity to assimilate treated pig waste and to test innovative approaches to pig waste disposal with private sector partners. These initiatives will form the basis for developing a system to better regulate and control the expansion of the pig industry in the State; it will receive support from the Second National Environmental Project (NEP II, Loan 4524-BR). Given the rapid expansion of the pig industry in the State and its high environmental risk, the State assigns high priority to these initiatives. The proposed project will support the dissemination and implementation of these experiences to other parts of the State, seeking to strengthen partnerships with the processing industry to induce it to assume greater responsibility in internalizing the negative environmental externalities of pig, poultry, fish and dairy production.

Conservation of Natural Resources: The State Government is fully committed to wider protection of the State's biodiversity and the environment, without which progress against its more immediate priorities in the rural and natural resources management sectors would be jeopardized. To "harmonize" the existing legal and policy framework in the environmental sector, the State Government and civil society proposed two new draft environmental laws: (i) the law that creates the State Protected Area System SEUC, thus strengthening the legal basis for the consolidation of protected areas and the development of ecological corridors, and providing a solid foundation for the participatory management of PAs; and (ii) the "*Lei do ICMS Ecológico*" which establishes fiscal

incentives to augment VAT allocations to municipalities that set up PAs, implement environmental education programs or protect local water sources from contamination. Although not in its original design, these initiatives were supported by the LM II, acknowledging their importance for a more coherent environmental policy. The SEUC law was recently approved by the Legislature. The project law for the “*ICMS Ecológico*” is currently under discussion for approval by the Legislature, and is expected to become effective in 2002.

In an initial attempt to address major environmental issues and related land-use conflicts affecting the Serra do Tabuleiro State Park, the State Government, with initial support from the LM II Project, has implemented a number of participatory planning, institutional strengthening and educational activities in the Park, including the completion of the Park Zoning Plan (PZP), a key management tool for the formulation of the Park management plan. In spite of these achievements, much remains to be done. In light of its global significance for the conservation of biodiversity and growing threats to the Park’s species and habitats, the State Government requested the Global Environment Facility’s (GEF) support to prepare a medium-sized project which is currently in its final stage of preparation (Conservation of Biodiversity and Ecosystem Rehabilitation in the Tabuleiro State Park Project, World Bank as Implementing Agency, GM- P066537-LEN). It would build on the LM II and other relevant projects and programs, expanding the Park’s conservation program, formulating the Park Management Plan, implementing conflict resolution activities recommended under the PZP and testing alternative livelihood activities in the buffer zone. In addition, the State Government recently created the State Attorney’s Thematic Office for Tabuleiro Park-related lawsuits. This office initiated its work in mid-2001 with active participation in the process of conflict resolution. Building on the experience piloted under the LM II to resolve conflicts in the pig-aquaculture industry, this office will have a key role in proposing and enforcing “Terms of Adjustment of Conduct” (Consent Decrees) envisioned to be implemented in the Serra do Tabuleiro Park, with support from the proposed GEF Project.

Structural Reform: In 1999, the State initiated the implementation of a structural reform program and entered into a Debt Agreement with the Federal Government to improve its fiscal management which, until then, was critical and represented an impediment to new Bank lending. However, its fiscal position has substantially improved and the State has satisfied the rigorous fiscal and financial benchmarks established under its agreement with the Federal Government while, at the same time, it has demonstrated its willingness to undertake meaningful structural reforms. To further improve efficiency and effectiveness of its public expenditure programs, the state is proposing to review the targeting and impact mechanisms of its social and safety net programs which would complement the project efforts to reduce poverty. The State is also undertaking structural reforms of its public utility management strategy, in particular with relation to energy, water resources, water supply and sanitation. Technical assistance in support of these State efforts is envisioned under the project.

3. Sector issues to be addressed by the project and strategic choices:

Among the sector issues outlined above, the proposed project would focus on those linked most closely to the State Government’s priority of rural poverty reduction, while improving the management of natural resources.

Project components have been designed to address, either separately or in synergy, each of the following underlying causes of the upsurge in rural poverty in Santa Catarina.

- *Rural Poverty:* Through the application of clear criteria for targeting the rural poor and of a highly participatory and decentralized diagnosis at the local and farm level, the project would concentrate its efforts on addressing the main causes of rural poverty.
- *Low quality of life of the rural poor:* The impacts on family health from poor housing, lack of sanitation and polluted domestic water supplies would be addressed through grants for the rural poor.
- *Insufficient knowledge of participatory methods by technical staff:* Project implementers and beneficiaries would be exposed to effective participatory methods, which are essential to achieve governance. A strong training program proved to be an important tool to induce needed technical changes under the LM II.
- *Land degradation:* The continuing degradation, declining productivity and falling earnings from the land of poorer and marginal farmers would be addressed on a priority basis. They were the least able to take advantage of the technical support and incentives offered by the previous LM II project.
- *Water pollution:* Water pollution due to farm intensification and concentration of pig, poultry and pig-

aquaculture production--the consequence of macroeconomic adjustment and opening of markets--would be addressed by resolving water and other environmental conflicts to directly improve the quality of life of beneficiaries and of society at large. It would also increase opportunities to supply sophisticated markets willing to pay premium prices for certified food products (e.g., organic production). Support for the adoption of Conservation Agreements and Terms of Adjustment of Conduct to resolve environmental conflicts associated with water pollution from animal waste and other relevant polluters, would help to achieve a more sustainable management of natural resources.

- *Lack of opportunities to reach niche markets:* Lack of opportunities for poor and marginal farmers, due to poor access and low bargaining power, would be addressed through initiatives aimed at enabling them to associate into viable groups, so as to achieve economies of scale and diversify into alternative products seeking niche markets. Addressing this issue would allow poor and marginal farmers to obtain price differentials to help offset declining incomes from their staple crops.
- *Lack of resources and technical information:* Seed capital, technical assistance and information needed to increase post-harvest value-added from agricultural products and to facilitate certification of origin would be provided to poorer and marginal farmers to help them take advantage of paths towards poverty reduction.
- *Integration of programs and policies at the local level:* The limited and uncoordinated flow of resources reaching the target area and population, and limited knowledge of the productive bases, would be addressed through the adoption of a decentralized approach focused on decision-making at the local level with properly trained decision-making bodies. The municipal and microcatchment participatory diagnostics and other planning mechanisms have proven to be strategic instruments to integrate policies and programs and to increase the effectiveness and impact of public resources available for poverty reduction and environmental management at the local level.
- *Insufficient integration of land, water and conservation activities and programs:* The broader, longer-term environmental threats to land, water and biodiversity resources which if further neglected will negate any shorter-term livelihood gains, would be addressed by piloting the preparation and initial implementation of river basin sub-catchment plans (or watershed plans) using the project microcatchment plans as building blocks and involving the broad spectrum of watershed stakeholders.
- *Fiscal Performance and Structural Reform:* The State's efforts to further improve its fiscal performance, in particular by improving effectiveness and efficiency of its public expenditures, would be supported by a technical assistance program to review, *inter alia*, compliance with the benchmarks of its Federal Agreement, undertake an assessment of the targeting mechanisms and impact of its social and safety net programs, while it would also review its energy sector restructuring program now under implementation. Of even greater importance would be the assistance to review the economic, legislative and institutional framework governing water resources and sanitation that would complement efforts being financed under other Bank loans.

The project implementation strategy would derive from that of LM II and from those of the neighboring southern states, but incorporate and further extend subsequent progress achieved by EPAGRI in targeting and outreach to the rural poor. While during the LM II, targeting criteria responded particularly to soil erodability, the current criteria have poverty as their driving force, with environmental degradation as a second priority. As in the case of the LM II, the planning and implementation unit would be the microcatchment, capitalizing on existing organizations at the local level. Training of both implementers and beneficiaries would be a strong instrument to achieve project objectives; however, greater emphasis would be given to training on participatory methods and include members of all decision-making bodies. The proposed project would seek to rehabilitate and improve the productive base of rural producers; however, in contrast to the LM II, the proposed project would also include resources to increase post-harvest value-added from agricultural production and reconversion of farming systems, as small-scale producers would need to offer quality and specialized products to complement their relatively small-scale production, seeking to obtain differentiated prices.

In consonance with this strategy, the proposed project would stress the need to achieve integrated environmental soundness at farm, microcatchment and regional levels and, on a pilot basis, at watershed level. To that end, as part of its strategy and whenever necessary, it would disseminate, promote and implement the scheme piloted by FATMA, SDM and EPAGRI to resolve environmental conflicts at microcatchment, river sub-basin and basin levels but strengthening partnerships with the processing industry. The proposed project would include a grant component to partially assist beneficiary farmers to adopt environmentally sound agricultural practices. To the extent that these practices would bring about off-farm public goods benefits, both small-scale and medium-scale farmers would also

receive grant financing but the latter at a much reduced rate. In contrast with its predecessor, the proposed project would also include grant financing for the poorest beneficiaries to improve their housing and sanitation and to create alternative sources of income, including the creation of new off-farm employment opportunities. The project would act as a catalyst for other federal, state and/or municipal programs in support of sustainable development of Santa Catarina's rural areas, particularly in poorer areas. It would stress participatory, demand-led planning. Priority setting and decision-making would be in the hands of bodies which beneficiaries and other stakeholders outside government would predominate. Implementation responsibilities and cost sharing would be entrusted as appropriate to municipalities, microcatchments, community groups or individual beneficiaries.

C: Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

The proposed project would be implemented over six years and has four components. It would support the Bank's central CAS objective for Brazil of poverty reduction. Its goal would be to reduce poverty and improve living conditions among small and marginal farmers, rural laborers and IP in the State of Santa Catarina.

Drawing from experience in rural poverty reduction projects associated with natural resources management, the project incorporates well-defined targeting mechanisms (at municipal, microcatchment and beneficiary level) based on a series of socioeconomic and environmental indicators; greater weight is given to indicators related to poverty. The priority target group consists of rural poor with per capita net farm income of less than two minimum wages, including those classified as "marginal" (with per capita net farm income of less than one minimum wage), "transitional type 1" (with per capita net farm income of less than two minimum wages) and IP (Annex 2, Appendix 1). Due to the high concentration of the target population in certain areas of the State, the proposed project would concentrate more implementation efforts in regions such as the Center (*Planalto*) and the far West. These regions include a significant portion of those 500 microcatchments benefited under the LM II project and which may be eligible for the proposed project. In these areas, the project would place special emphasis on benefiting the poorer farmers with income generation activities and would also support subprojects on pollution abatement, natural resources protection and improved land management, so as to ensure environmental soundness and compliance with environmental legislation as a vehicle to obtain certified and safe products. The final draft Project Operational Manual containing, *inter alia*, the project's organization, operation (including financial, procurement and disbursement requirements) and technical strategy, and selection criteria for the selection of municipalities and beneficiaries, was made available at Loan Negotiations and its formal approval will be a condition of Loan Effectiveness.

(i) Institutional Development and Organization (US\$17.9 million; 16.7% of total project cost)

An extensive **training sub-component** (4.3% of total project cost) would finance preparation of both implementers and beneficiaries for behavioral changes and new modes of operation that are implicit in the new technical strategy. Training in the principles and practice of participatory rural diagnosis, group formation and operation, participatory planning and stakeholder monitoring would be complemented by appropriate practical or technical courses, such as techniques for sustainable land management, product diversification and agro-processing. Course content, location and duration would be matched to the needs of these different stakeholder categories and identified at the local level. Definition of the training team within EPAGRI and the training structure and content of the training program for the first six months of the project were reviewed by the appraisal mission. In all, about 92,000 stakeholders would be trained, including small farmers, IP and rural workers and private sector extensionists. A **sub-component for environmental education** (1.1% of total project cost) would boost stakeholder awareness regarding the need for, and commitment to, addressing environmental problems to improve their rural livelihood. It would support education efforts directed at helping to develop an environmentally conscious society and inspire personal and social responsibility for the environment throughout rural Santa Catarina. It would reach the target population, plus about 14,650 leaders. To allow schools within the benefiting microcatchment areas to comply with federal laws on environmental teaching, 1,000 environmental teaching projects would also be financed.

A **rural extension sub-component** (5.6% of total project cost) would have as its main objective the promotion of the project among the rural poor by providing information, motivating decision-making bodies about the project, assisting group formation, assisting beneficiaries in preparing microcatchment and farm plans and assembling community demands for social as well as technical and financial support. It would train and equip providers of

technical and social assistance at microcatchment, municipal and regional level. Four hundred and forty “facilitators,” would be contracted and paid by the Microcatchment Association (MA) and support demand-led participatory development planning and project implementation at community level. Existing technical and social EPAGRI extensionists (“animators” at municipal level and technicians at regional level), would back up facilitators; they would be current EPAGRI employees. Facilitators would assist farmers in preparing about 880 microcatchment and 70,000 farm plans. An **adaptive and social research sub-component** (4.3% of total project cost) would respond to specific technology adaptation and information needs arising from demand-led participatory development programs, including specific studies needed to better address indigenous issues. About 340 technical and socioeconomic adaptive research projects would be financed through a competitive process administered by a Project Management Unit (PMU) at the state level, assisted by a group of eminent scientists as peer reviewers. This sub-component would also finance the census at the municipal level, which will be the basis of the municipal diagnostic, and the maps needed for the preparation of the microcatchment development plans. A **technical assistance sub-component in support of the State structural adjustment** (1.4% of total project cost) would finance special studies and consultant services to assist the State in its structural adjustment efforts. Studies would be administered by the PMU and coordinated by the Governor’s Secretariat and cover: (i) evaluation of state poverty reduction programs, including micro- and rural credit schemes and social inclusion schemes; and (ii) alternatives to reform public water (including watershed management) and energy services. The results of the studies would be submitted to the Bank no later than one year after Loan effectiveness to discuss findings and the strategy for possible dissemination of the studies’ results. As part of its dialogue with the Bank during the execution of the Project, the Government would continue to exchange views with the Bank with respect to its ongoing Fiscal Adjustment Program.

With the exception of technical assistance for the structural adjustment sub-component (which would be executed by the Governor’s office) and the research sub-component to be executed by the PMU, the component would be executed by EPAGRI, which, in addition to allocating its existing staff, would make its state-level and regional facilities available as bases for field operations under all components and for training. Implementation would be coordinated by a training and education specialist and a research and extension specialist, both seconded from EPAGRI and based in the PMU.

(ii) Rural Investment (US\$77.2million; 72.3% of total project cost)

The project’s Rural Investment Fund (RIF) would operate as a special program under the existing State Rural Development Fund (RDF). The latter operates under the incentive legislation enacted for LM II and is managed by a unit under the Secretariat for Rural Development and Agriculture (SDA), with criteria set up by the State Rural Development Council (Cederural). The RIF would be the instrument to facilitate the adoption of the project strategy within the benefited microcatchment. As in its predecessor project, cost ceilings would be established per type of beneficiary, microcatchment and type of activity to be promoted. To compensate poorer farmers for the shock of macroeconomic adjustment measures and improve their livelihood, it would include social infrastructure matching grants for poorer rural people, including farmers, IP and rural laborers. It would also provide matching grants to individual target microcatchment dwellers individually or in groups to pilot new technologies and to adopt innovative schemes and production systems to enable small-scale farmers to differentiate their products and aggregate value to take advantage of niche markets. It would also include a set of incentives to induce all farmers within benefiting microcatchments to address environmental conflicts, which will either generate off-farm public goods or benefits that have long maturity periods. The grant would be the vehicle to partially share farmers’ costs to comply with environmental legislation while at the same time achieving food security. The project would also promote the adoption of “Terms of Adjustment of Conduct” to allow farmers to undertake compensatory measures and to make the necessary adjustments over a reasonable period of time to comply with environmental legislation. The fund contemplates three categories of grants: (i) those for home improvements such as piped water, sanitation or waste disposal as well as minor structural improvements to housing (available only to poorer farmers, IP and rural laborers residing in the microcatchment); (ii) those used for conservation and environmental purposes such as reforestation, protection of water sources or schemes to increase biodiversity (available to all farmers but with differentiated contributions with preference to poorer farmers); and (iii) those for income generation, whether through improvements to production systems, value-added schemes or job creation (available to poorer farmers and landless laborers and to other farmers only when in association with at least 66% of the target population but with a lower-cost share of grant contribution).

Use of grants would be demand-led, and a consequence of the microcatchment development plans, individual plans and indigenous plans. Communities could also use grants to repair or upgrade critical stretches of rural roads or undertake initiatives that would benefit groups of microcatchments or municipalities if identified to resolve critical local constraints identified either in the microcatchment plans or under the environmental management component. It would also fund any group environmental protection schemes that members may demand--e.g., to replant trees for river bank protection. Grants supported under the Fund would also be available to MAs to contract technical assistance for the preparation and implementation of microcatchment, individual and indigenous plans.

(iii) Environmental Management (US\$3.8 million; 3.5% of total project cost)

A sub-component for **watershed management** (2.1% of total project cost) would expand the State's efforts to integrate environmental and river basin management policies and laws. It would pilot the preparation and implementation of three river basin sub-catchment plans, using project microcatchment plans as building blocks. Selection criteria for the watersheds/sub-catchments (out of the 23 into which the State is divided) include the importance of the habitats they contain, threats to biodiversity, their current under-representation among the existing State parks and reserves system, poor water quality due to poorly managed pig waste or pesticide use, a high concentration of the target group and the prior existence of local commitment to, or implementation capacity for, environmental activities. One of the selected watersheds is the area with the highest concentration of pigs per square kilometer in the State. The project would complement State efforts to develop and implement a system to better regulate and control the expansion of the pig industry with full participation of all stakeholders. The two other watersheds have significant biodiversity value, and hence their plans would be the basis for the identification of ecological corridors. A sub-component to create **ecological corridors and protected areas** (1.4% of total project cost) would oversee preparation of the regulations and the dissemination and application of the newly-enacted State PA System law and the soon to be enacted "*Lei do ICMS Ecológico*" to which Santa Catarina is fully committed. This would foster the creation of public and private PAs to be able to promote and develop the ecological corridors. One existing state park would be consolidated. Promotion of new public and private PAs, as well as consolidation of two ecological corridors, would begin.

Component implementation would be coordinated by the Santa Catarina SDM assisted by FATMA. They would work with EPAGRI, NGOs, municipalities, stakeholder associations, the PMU and others as appropriate. An environmental specialist assigned to the PMU would oversee and coordinate component implementation.

(iv) Project Management, Monitoring and Evaluation (US\$ 8.0 million; 7.5% of total project cost)

A sub-component for **project management** (2.7% of total project cost) would set up and operate the PMU at the state level and in 14 subsidiary units at regional levels. Regional units would act as executive arms for the stakeholder bodies responsible for participatory planning, decision-making and oversight of implementation at state, regional, municipal and microcatchment levels (see Section C.4 below). Project monitoring, evaluation and the distribution of findings would be supported under a sub-component for **monitoring and evaluation** (2.4% of total project cost). A sub-component for **community organization** (2.4% of total project cost) would provide separate resources for the creation and operation of all categories of stakeholder bodies. Given the project's decentralized nature, an automated Management Information System (MIS) would be implemented under the project to enhance the existing system developed under the LM II to integrate physical and financial data. It would be based on the automated systems already implemented in neighboring states with similar projects, I. and would ensure timely budgetary and expenditure information (to the Bank and other stakeholders). It would also incorporate internal controls, records of project assets, accounting, procurement, auditing and means to automatically reconcile the project's Special Account to conform with the Bank's Financial Accounting, Reporting and Auditing Handbook (1995), the Bank's Operations Policy and Procedures 10.02 of July 1996 and revised financial management standards as in OP/BP 10.02 of August 1997. The TORs for the development and the timetable for the implementation of the MIS have already been agreed and are part of the agreed PMU Institutional Strengthening Action Plan (see Appendix 1, Annex 6).

The PMU and the regional units were created by State Decree No. 3954 of January 30, 2002 with structure satisfactory to the Bank. The PMU is directly under the State's SDA and its managers were appointed through State Regulation No. 221 of March 5, 2002. The State and Regional Units would be largely staffed by secondments from implementing partner organizations within the Government, particularly SDA, EPAGRI, ICEPA, SDM and

FATMA. Technical assistance to be hired by ICEPA would be available to strengthen the capacity of the PMU. Implementation of PMU and regional offices, full staffing and training in Bank procedures, and the Installation of the MIS, satisfactory to the Bank, are part of the PMU Institutional Strengthening Action Plan (see Section E 4.1 below) included in the Side Letter from the Borrower to the Bank, dated March 26, 2002.

Component	Category	Indicative Costs (US\$M)	% of Total	Bank-financing (US\$M)	% of Bank-financing
1: Institutional Development / Organization		17.9	16.7	6.7	37.4
1.1: Training	Institution building	4.6	4.3	2.6	56.5
1.2: Environmental Education		1.2	1.1	0.6	58.3
1.3: Rural Extension		6.0	5.6	1.3	21.7
1.4: Adaptive & Social Research		4.6	4.3	0.9	19.6
1.5: Technical Assistance for State Adjustment Program		1.5	1.4	1.2	80.0
2: Rural Investment	Physical	77.2	72.3	48.7	63.0
2.1: Social	(Civil Works,	7.6	7.1	4.9	65.0
2.2: Environmental	Goods,	20.1	18.8	13.0	64.6
2.3: Economic	Equipment & Materials)	30.4	28.5	19.8	65.0
2.4: Technical Assistance		19.1	17.9	11.0	57.5
3: Environmental Management		3.8	3.5	2.3	60.5
3.1: Watershed Management	Institution building	2.3	2.1	1.5	65.2
3.2: Ecological Corridors and Protected Areas		1.5	1.4	0.8	53.3
4: Project Management, M&E	Project management	8.0	7.5	4.5	57.5
4.1: Project Management		2.9	2.7	1.4	51.7
4.2: Monitoring and Evaluation		2.6	2.4	2.0	76.9
4.3: Community Organization		2.5	2.4	0.9	36.0
5: Front-End Fee		0.6		0.6	100.0
Total		107.5	100.0	62.8	58.4

2. Key policy and institutional reforms to be sought:

The project would be closely aligned with current State and Federal Government policies and institutional frameworks. No substantive changes would be needed. With project support, institutions would continue to develop towards greater degrees of decentralization, delegation and stakeholder cost sharing to which Santa Catarina is committed. The participatory development approach proposed is already in use and would be further refined. The State Government gives high priority to the enactment of the environmental laws and regulations that would be promoted and applied under the project; limited precedents for application of similar approaches on the ground come from the predecessor LM II project. Through the financing of special studies and consultancies, the project would assist the State in key areas to further advance the structural reform efforts to which the State is fully committed.

3. Benefits and target population:

The project would bring economic and social benefits to its target population, the rural poor, by reducing rural poverty and decreasing future vulnerability of the rural poor to external shocks. There would also be associated environmental and institutional benefits. Incomes of 105,000 poor and marginal farmers and some 5,000 poor

indigenous people would increase and be stabilized through improved farm profitability resulting from: (i) upgrading of their land management and other agronomic practices; (ii) diversification into more profitable crop and livestock enterprises; and (iii) new job opportunities--particularly for women and young people--created in new post-harvest processing and other rural enterprises.

Social and health benefits to this target group would include better health due to improved housing, sanitation and reduced contamination of domestic water sources. Empowerment and social capital of the target group would be increased through improved habits of community cooperation, greater representation in civil society and decision-making, an increased sense of ownership of development processes and access to and control over a larger share of public expenditures. The ability of target communities to withstand future shocks would thereby become stronger. Additional economic benefits, some of which would also accrue to the target group, would come from improvements to current environmental conditions in animal husbandry, which would contribute to improving food security and also allow for certification of products, greater price differentials and more profitable foreign markets.

Institutional benefits would include improved methods of participatory operation and integration of Government organizations, enhance accountability for programs and projects, as well as wider-ranging and more effective partnerships between the public sector and organizations in the private and voluntary sectors. Further steps would be taken towards decentralization and greater civil society participation in State Government development programs and projects.

Environmental benefits would include improved water retention and aquifer recharge, combined with reduced soil loss resulting from more sustainable land management; lower chemical and biological pollution of soil and water within, and downstream of, project microcatchments; increased carbon sequestration in the form of organic soil matter and forest trees; and reduced emissions of greenhouse gases from livestock enterprises. Further important externalities would accrue from improved protection of biodiversity in five important habitat types within Brazil's threatened Atlantic Forest ecosystem.

The **target population** consists of an estimated 105,000 small and marginal farmers' families and rural laborers and about 5,000 indigenous peoples. This estimated population resides primarily in 880 microcatchments (an estimated 3.6 million hectares) out of Santa Catarina's 1,683 total microcatchments. Among this population, the **priority target group** consists of rural poor with per capita net farm income of less than two minimum wages, including those classified as "marginal" (with per capita net farm income of less than one minimum wage), "transitional type 1" (with per capita net farm income of less than two minimum wages) and IPs. Although the target group would be the poorest segment of the population living in those areas (about 80,000 poor rural families including indigenous families, i.e., 75% of families to be benefited under the project), the project would encourage the participation of all members of the microcatchment, in particular for environmental activities. The project's direct beneficiaries are estimated at approximately 105,000 rural families.

Targeting of project municipalities and microcatchments would be based on the application of specific criteria that combine the following considerations: (a) social indicators and factors such as the concentration of small farmers and IP, and (b) environmental status as represented by degradation of natural resources and threats to biodiversity (see Annex 2, Appendix 1 on targeting). In the one-third of municipalities considered from the application of these criteria to be the neediest, two-thirds of microcatchments would be eligible for assistance. In the middle third, half the microcatchments would qualify. In the least needy third, only one-third of the microcatchments would qualify. Municipalities, through their existing Rural Development Councils, would choose which of their individual microcatchments to target using the specific criteria mentioned above. Once a microcatchment has been selected, all local residents would be eligible to participate in the project through the MA, although support agencies would be always required to focus the operation of the MA on the needs of poorer people.

4. Institutional and implementation arrangements (see Annex 12 on Project Management Structure):

Project implementation would be the responsibility of the Santa Catarina SDA. In fulfilling these executive responsibilities, SDA would be supported principally by SDM, FATMA, which is affiliated with SDM and EPAGRI, and ICEPA, which is affiliated to SDA. The final drafts Subsidiary Agreements between SDA and these institutions were provided at negotiations. Signature of the Subsidiary Agreements would be a condition of Loan

Effectiveness. A Cooperation Agreement would also be signed between SDA and FUNAI to assist, when and as needed, with project activities related to IP communities. Such Cooperation Agreement would need to be signed no later than one year after Loan Effectiveness.

The project management structure would be decentralized, with executive bodies at the state, regional, municipal and microcatchment levels. Building on the experience of the LM II, it has been designed to maximize participation and ownership of decision-making by the beneficiaries, combined with transfer of these responsibilities and project accountability to the lowest practicable administrative levels. These aims would be achieved by creating a pyramid of interlinked “deliberative” bodies in parallel with the executive ones, extending from state level through 14 operating regions to Santa Catarina’s 293 municipalities, the 880 project microcatchments and eventually down to the community level. Where similar deliberative bodies already exist--at state and municipal levels--the project’s specific deliberative bodies would be attached to them but with specific membership to ensure full representation of the target beneficiaries. To ensure that development is demand-led, at least 50% of the participants in project deliberative bodies at every level would be members of the target group or their representatives. Other members would span remaining stakeholders in the participatory process – NGOs, labor unions, cooperatives, private firms, government organizations involved in implementation and local political figures such as mayors. The project State Deliberative Committee (CCE), and the Regional Deliberative Committees (CCR) were established as special Committees under the Santa Catarina Rural Development Council, *Cederural*, by Resolution No. 001/2002/SDA/CDRURAL, of February 18, 2002.

Deliberative responsibilities. On a scale appropriate to their levels in the pyramid, deliberative bodies would set project implementation policy and priorities, approve annual operational plans and fund allocations, resolve conflicts between stakeholders, approve sub-projects/grants, monitor and evaluate progress and approve implementation reports. These stakeholder “deliberative” bodies at microcatchment, municipal, regional and state levels would also be responsible for overseeing the focus of the project on poverty reduction through the correct application of selection criteria at municipal and microcatchment levels. Proper focus at farm level would be monitored through the adequate application of the selection criteria of the RIF.

Executive responsibilities. An executive chain of mainly government, mostly seconded, staff would also be formed. Under the overall responsibility of SDA, the executive chain would service and support deliberative bodies in fulfilling their responsibilities and in the implementation of the actions they demand. The executive structure would echo the deliberative pyramid, with small executive units at state, regional and municipal levels (see Figure 1 in Annex 12). At the lowest level, microcatchments would be assisted to hire their own external support assistance, but these would still be trained and backstopped by executive units. The executive chain would also be responsible for loan administration, project accounting, auditing and meeting the information and reporting requirements of the Bank.

The PMU set up under the authority of the SDA would oversee, coordinate, administer and monitor the project. The PMU have small departments dealing with technical management, finance, administration and procurement, and the operation of the RIF. The PMU is staffed mainly by secondment from the partner executive organizations but technical assistance is being hired through ICEPA to strengthen the capacity of the PMU. The PMU has the support of a social scientist to assist and coordinate indigenous activities under the project. The executive branch would also maintain small multi-institutional units comprised of teams seconded from partner executive organizations, one in each of the 14 EPAGRI regional offices. EPAGRI’s regional and municipal offices would serve as the project’s executive units. The project’s executive structure was created by State Decree No. 3954 of January 30, 2002. Activities to be implemented directly by the PMU in addition to project administration, would be agricultural research, operation of the RIF, and the technical assistance sub-component in support of the State’s structural adjustment effort; the latter to be closely coordinate with the Governor’s Secretariat. Training, extension, environmental education and community organization would be coordinated by EPAGRI. The environmental management component would be implemented by SDM and FATMA. Independent technical, financial and beneficiary auditing would be undertaken as part of the project’s M&E structure (see description of M&E sub-component in Annex 2).

At microcatchment level, MAs would be legally established and form development committees to represent their members prior to receiving any financial support under the RIF. The MA committees would: (i) organize participatory social, economic and environmental diagnoses with local communities; (ii) on the basis of these

findings and beneficiary demands, prepare a Microcatchment Development Plan which would include, *inter alia*, the consolidated local demands for finance from the RIF; (iii) submit plans and funding demands to the municipal level; (iv) oversee plan implementation; and (v) monitor and evaluate results. The existing Municipal Rural Development Councils (CMDR), through Municipal Deliberative Committees - *Comitês Setoriais de Microbacias* (CCM) - to be created, would select the microcatchments to be targeted by the project based on the information gathered at the municipal diagnostics and using the project selection criteria.

CCM would be created prior to receiving any financial support from the RIF. Creation of a CCM would be a requirement in the agreement to be signed between SDA and each municipality prior to initiate project works in each municipality. The municipal project executive branch would assist in the formation of MAs as legal entities, and consolidate microcatchment plans within the municipality; CCM would approve annual municipal plans, then evaluate and, if appropriate, approve grants to a maximum of R\$5,000. The regional executive branch would consolidate municipal plans and fund requirements within that region; CCRs would approve regional annual operating plans, oversee their implementation and approve grant applications from R\$5,000 to R\$50,000. The PMU would consolidate funding requests coming from regions and forward them to the CCE. The latter would approve grant applications above R\$50,000 and would be the ultimate policy- and priority-setting body for the project. It would monitor and evaluate the effectiveness of the project's executive units and management.

The cycle of project operations would be as follows (see Annexes 2 and 12).

- *Project promotion* among all stakeholders at all levels. This would be a continuing process, and it would include dissemination of information on progress and results being achieved.
- *Municipal diagnosis and division of microcatchments*: Municipal division of microcatchments would be based on the municipal census to be carried out by SDA, assisted by EPAGRI, using the methodology being piloted by EPAGRI in 22 municipalities.
- *Selection of microcatchments and formation of MAs*: Microcatchments would be selected by the CCM, applying project selection criteria and using the information generated by the municipal census and existing social and environmental data.
- *Formation of the MA*: Building on existing associations within the microcatchments, the MA would be formed, members trained and a facilitator contracted by MAs. The legal status of the MA would be established; however, this activity might need additional time to be consolidated.
- *Microcatchment diagnosis* would follow, guided by the facilitator and consisting of participatory appraisal following EPAGRI's guidance and involving all local communities and stakeholders with emphasis on the target group.
- *Microcatchment development plans* would be prepared next, again under the responsibility of the MA and supported by the facilitator, who would draw on help from municipal extensionists or regional subject matter specialists as necessary. Participatory methods would generate group or individual plans on productive, social or environmental themes, giving priority to the needs of the target group.
- *Plan approval and financing* would be in the first instance the responsibility of the MA. Approved Microcatchment Plans would be consolidated successively at municipal, regional and state levels by staff at the respective executive branches. Plans and the financial requirements for the RIF would be approved by the deliberative bodies at municipal, regional and state levels with increasing delegated authority by the RIF.
- *Implementation* of sub-projects would be overseen by the MAs, again with support from the facilitator and municipal/regional project staff. Training, exchange visits between farmers and other means of building skills and social capital would continue.
- *Monitoring and evaluation* would follow a detailed M&E system to be designed prior to project start-up. Facilitators would contribute progress reports with the formats and frequency required, which would be aggregated by project staff up to higher levels. Participation of the beneficiaries in M&E would be maximized: they would be provided with feedback and share in decisions on any necessary mid-course corrections. Consolidated M&E reports would be submitted to the Bank. Independent ex-ante, mid-term and ex-post evaluations would be contracted by the PMU.

D: Project Rationale

1. Project alternatives considered and reasons for rejection:

The following options were considered but rejected in designing the project.

Continuation of the LM II project focus and approach. This option was rejected based on the post-evaluation of the LM II project and because Santa Catarina's development priorities have shifted from a focus simply on maximizing the land area under more sustainable practices, towards addressing in parallel the rising incidence of rural poverty particularly among the smallest farmers.

A scaled-down continuation of the LM II approach or an Adaptable Program Loan (APL). Both options were considered as responses to Bank concerns during the 1999-2000 period about Santa Catarina's tight fiscal situation, doubts over creditworthiness and possible difficulty in raising counterpart funds. They were rejected because of the favorable impact on the fiscal situation of State civil service reforms and privatization. An APL, conceived as having a learning phase of two to three years, was furthermore considered as redundant because of progress made in the meantime in the 22 pilot microcatchments to refine the participatory methods of LM II and improve their outreach to the rural poor.

Separation of poverty reduction from natural resources investments. This approach was rejected because of the close connections among unsustainable agricultural practices, rural poverty and environmental degradation. To separate environmental investments would risk ignoring threats to the longer-term sustainability of project efforts to alleviate rural poverty. It would also be an inadequate Bank response to the commitments made by the Federal and State Governments to policies and legal measures for closer integration of the management and conservation of natural resources.

Credit funding for the target group. Matching grants were chosen as the funding vehicle to alleviate poverty because members of the target group are too economically fragile to have access to the alternative, rural credit, and are not creditworthy. Furthermore, grant funds would in many cases be used for social as well as economic purposes – e.g., to improve housing, sanitation and access roads or to build social capital through support by facilitators for MAs. In addition, the funds transferred for environmental activities would generate considerable public goods or externalities such as reduced pollution, conservation of biodiversity or reductions in the rural exodus. The costs of achieving these beneficial effects should be shared with society and not borne entirely by the target group. It was considered inequitable to use credit and hence require cost recovery for project-induced changes and to benefit the poorer rural population.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned):

Sector issue	Project	Latest Supervision (Form 590) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
<u>Bank-financed</u> <ul style="list-style-type: none"> • Land management practices (including soil and water conservation) • Community-based rural development • Strengthen environmental institutions • Investments and Institutional Strengthening 	Land Management I Parana Project (3018-BR)	HS	HS
	Land Management II Santa Catarina Project (3160-BR)	S	HS
	Land Management III São Paulo (4238 -BR)	S	S
	Rural Poverty and NRM Project-Paraná (4060-BR)	S	S
	Rural Poverty Alleviation Projects:		
	Bahia (3917-BR)	S	S
	Ceará (3918-BR)	S	S
	Pernambuco (4122-BR)	S	S
	Sergipe (3919-BR)	S	S
	NEP I Project (3173-BR)	S	S
	NEP II Project	S	S
	Water Sector Modernization II (4292-BR)	S	S

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in proposed project design:

Experience from all of the above and other Bank-funded projects which support natural resources management in the context of rural development, in particular the experience gained in Santa Catarina with the highly successful LM II Project. The design responds to the following lessons, which are fully consistent with the LM II and its predecessor, the Paraná Land Management I projects.

- *Civil society participation is crucial for any program to introduce more sustainable natural resource management practices.* The project would involve stakeholders to a greater extent than LM II in priority-setting, design and implementation. Close voluntary associations would be created between individual beneficiaries and their communities on the ground, between these beneficiary associations and government support organizations, and the private and voluntary sectors would be incorporated into these stakeholder coalitions to bring complementary skills and resources.
- *Clear targeting mechanisms.* Verifiable and objective criteria that reflect the central and dual objective of the project--poverty alleviation and environmental considerations--can foster transparency, minimize political interference in project resource allocation and ensure that project resources reach the poorest areas. The project would have poverty reduction as the most important criterion for project intervention, while recognizing the close interdependency between depletion of natural resources and poverty.

- *Responsibilities for implementation should be entrusted to the lowest possible levels to maximize the commitments to success of individual and organizational stakeholders.* The stratified deliberative bodies proposed, reaching down to the level of the microcatchment and individual communities, would further entrust decision-making and responsibilities for implementation.
- *Extensive orientation and practical training are needed, both to change stakeholders' perception of the concepts and practices of participation and to build their awareness of new approaches and techniques for sustainable resource management.* A substantial orientation, training and public awareness campaign would be the first step in project implementation.
- *The microcatchment and its residents, considered together, constitute the most convenient basic unit for planning programs.* This feature would be retained from previous projects, with strengthened mechanisms to ensure involvement of the poorest residents in the microcatchment.
- *Farmers will only adopt improved practices for land management within their microcatchments if these changes bring early financial benefits.* Technical extensionists would focus their advice on profitable technologies; visits by farmers to see profitable farming practices in application by others would be an important part of field extension programs; farmer participatory R&D programs would ensure that profitability would be prominent among evaluation criteria in the search for improved technologies.
- *Government commitment--to provide financing, human resources and a facilitating legal framework--is crucial to success.* Santa Catarina has been preparing the project for four years, committing its own resources and within these limits continuing to improve implementation strategies and procedures. Successive State administrations as well as the mayors of many municipalities remain committed to the project approach. The Legislature unanimously approved the authorization for the State to accept Bank funds on November 28, 2001.
- *Governments should be prepared to share the costs of changed land management with land users, especially where change brings substantial off-farm public goods benefits or farmers' financial benefits would be long deferred.* The RIF has been designed in response to this lesson.
- *Government commitment needs to be complemented by skilled project management and constructive supervision support from the Bank; creative and flexible handling of implementation problems are often necessary.* On the Government side, many of the key individuals who successfully implemented LM II are involved in the design of the present project and are expected to take leading roles in its implementation. This team will be complemented with consultants to be hired in specialized areas.

4. Indications of borrower commitment and ownership:

The Government of Santa Catarina maintained a strong commitment to the successful implementation of LM II through several changes of administration and in the SDA. The present project is seen as a step towards eventual coverage of all of the State's 1,683 microcatchments and enjoys equally high Government priority. In 1995 the State received Federal Government approval to seek Bank support for an LM II follow-up project with a total cost of US\$107 million. Local preparation began in 1998. However, the State's fiscal position in the late 1990s did not allow the launching of a new project upon completion of LM II in October, 1999. It was not until the end of August 2001 that the project was reinserted in the Bank's pipeline. Despite the resulting loss of continuity with LM II, Santa Catarina nonetheless initiated small-scale pilot exercises, particularly those led by the field implementation organized by EPAGRI, to continue to adapt the LM II participatory arrangements to respond more effectively to environmental concerns and to the needs of the poorest rural people. Preparation now incorporates the results of a participatory process that has involved some 2,000 potential beneficiaries, plus other private stakeholders, NGOs and Government organizations. Legal authorization to borrow US\$62.8 million from the World Bank has been requested by the State Secretariats of Agriculture and Finance; it was endorsed by the State Governor on October 4, 2001 and passed to the State legislature on October 9, 2001. The Legislature unanimously approved it on November 28, 2001.

5. Value-added of Bank support in this project:

The Bank has long been the principal external lender supporting Brazil's programs to address environmental and rural poverty issues. Both themes are combined in the present project. It would be one of several interventions in Brazil aimed at the Bank's central strategic commitment to poverty reduction. It would be convergent with the strategic recommendations of the recent Rural Poverty Report, which flags small-farm intensification, growth of

commercial agricultural opportunities, rural non-farm development, reduction of out-migration and design of economic safety nets as priorities for poverty reduction. The project would support means to integrate the management of water resources with river basin management as provided for in recent Federal laws, as well as closer integration of natural resource management and protection. It would leverage local counterpart financing, especially stakeholder and municipal contributions. Finally, it would continue to reinforce the progress made under LM II and ensure that through future State administrations there is continuity of support of poverty reduction, environmental management and institutional effectiveness in these fields.

E: Summary of Project Analysis

1. Economic (see Annex 4 for detailed analysis)

Economic evaluation methodology:

Cost benefit Cost effectiveness

Estimation of economic benefits. As project investments will be demand-driven, precise forecasts of how project resources would be applied by the beneficiaries are not feasible. Drawing on the experience under LM II, productivity levels for staple crops would be expected to increase in a range of 20 to 35%.

The Internal Economic Rate of Return (IERR) has been estimated in 19%. The economic benefits estimated are primarily associated with increased agricultural production and farmers income. Additionally, the IERR takes into account the proposed project's contribution to regulating atmospheric gases & elemental cycles. This estimate is conservative, since it does not take into account the benefits accruing from reduced soil run-off and erosion. Furthermore, the analysis did not capture "without project" productivity losses (project benefits) due to declining soil fertility. Benefits derived from many poverty reduction and income generating investments included in the costs were not calculated (e.g., housing and infrastructure improvements, sanitation, and reduced contamination of domestic water sources).

2. Financial

Estimation of financial benefits. Eleven farm models, five processing facility models and seven microcatchment-area models have been identified to represent some working hypothesis of likely beneficiary choices taken in response to the proposed project activities and incentives towards the adoption of conservation agricultural practices and PAs investments. The expected adoption of conservation practices would reduce soil degradation, minimizing changes in soil composition and structure and maintaining organic soil cover. The quantifiable benefits at the farm level would include: (i) reduced on-farm costs (savings in time, labor and mechanization); and (ii) increased soil fertility, resulting in long-term yield increase, reduced yield variations and greater food security. These benefits stemming from better Natural Resources Management (NRM) are generally considered by farmers in deciding whether they will change their production practices.

Farmers' net income would increase under the project from 50% to more than 300%, depending on the farmer's initial conditions, farm size, cropping pattern and survival strategies. For the poorer farmers, i.e., those earning one minimum salary or less, on-farm activities promoted by the project, besides contributing to improved NRM, would generate significant production increases, mainly for self consumption. Across all models estimated, the Financial Internal Rate of Return (FIRR) ranges from 30% to greater than 50%.

Fiscal Impact: Most of the project incremental production is subject to the ICMS 12% tax. Sales of goods and services and income tax revenues from incremental profits from on and off-farm production and service activities in the project area are also expected to be significant, as is the case of the strong export poultry/pig production chains where several taxes and income transfers to other sectors are evident. Maintenance costs of rural roads will be reduced significantly by better erosion control, falling by as much as 80%, according to previous estimates. For simplicity, the fiscal analysis only considered the expected 12% ICMS value of the incremental production. Its present value--using 12% as discount rate--is equivalent to the present value of the foreseen fiscal project costs. Consequently, the consideration of the other sources of fiscal benefits, it can be concluded that the project would also have a positive effect over the public accounts.

3. Technical

The LM II technical strategy of promoting practices that maximize soil protection from rainfall, contribute to improved water infiltration by enhancing soil structure and handle remaining rainfall runoff safely, taking the microcatchment into account in the planning and implementation unit, would be maintained. Basic technology for diversification and post-harvest improvements to the production systems of small farmers is quite well known and already promoted by EPAGRI. Adaptation to the circumstances of marginal farmers and IPs would continue under ongoing and incremental R&D programs.

4. Institutional

4.1. Executing agencies:

The project, like its predecessor, would continue to be the responsibility of SDA, supported by SDM, FATMA, EPAGRI and ICEPA. The PMU has been staffed with experts with substantial experience with Bank financed Projects. In addition, the technical capacity of the main executing agencies is adequate to implement the project; knowledge of Bank financial and procurement procedures were updated and enhanced. Implementation of the agreed Institutional Strengthening Action Plan, mainly to build up the financial and procurement capacity of PMU, SDA and all other executing agencies is been implemented satisfactory. It consists mainly of a training program and the development of an automated MIS-integrated system. It also include additional up-dated training courses, and the provision of short-term specialized consultancy during the project's life, as needed.

- **Training.** The training package was built on the work initiated under the LM II. It would involve over 90,000 people and contains training ranging from farmer visits and learning-by-doing, to classroom courses and public presentations. Overall, it aims to change stakeholders' behavior, whether traditional "givers" or "recipients" of conventional types of development support, as well as providing them with the necessary skills, so that they can operate effectively in a participatory, demand-led mode. It would also include training in Bank financial and procurement procedures for PMU and staff of all implementing agencies during the first year of the project. Detailed monitoring of EPAGRI's progress in meeting this challenge and tight management standards would be designed and adhered to through implementation.
- **Targeting.** Targeting criteria to decide the proportion of microcatchments to receive project support in each municipality, and the subsequent selection of those microcatchments, depend on a wide range of data, some of which would be assembled progressively, as work on different municipalities advances. This methodology and *modus operandi* were built substantially on the successful experience of the LM II; project criteria have eliminated the subjective part of the criteria adopted in the earlier project. EPAGRI would be required to oversee this process and guide selection by CCMs. Monitoring of EPAGRI's and CCM's performance would be part of the project management system designed to track these steps of implementation, ensure transparency and control possible distortion due to political or other pressures.

4.2 Project management:

The project management structure builds on the successful experience of the LM II. It imposes complex and demanding tasks on the PMU at State and regional levels (see Annex 12). However, to facilitate this task, the project relies on a very experienced PMU staff, and on a strong, early dissemination and training program. In addition, management responsibilities and operational procedures at all levels (state, regional, municipal, and microcatchment), as well as among implementing agencies, are part of the Operational Manual. It includes, among others, criteria and application procedures for selection of municipalities, microcatchments and the RIF, the project's annual planning and budget cycle, loan administration and accounting, procurement procedures and the indicators, techniques and responsibilities for monitoring and evaluation. The Operational Manual was presented to the Bank at Loan Negotiations, it will be approved prior to Loan Effectiveness. The PMU and the regional units were created by State Decree on January 30, 2002. The PMU is staffed with competent experts, a number of whom had substantial managerial, technical and financial experience implementing the LM II. Initial preparation of the PMU's management team and staff to be placed in its regional affiliates would focus on effective project dissemination, monitoring and coordination of the interlocking project activities. The need to build enduring habits of cooperation

between government organizations accustomed to operating with little reference to each other and to forgo links with broader civil society would be stressed and carefully monitored during project implementation.

4.3 Procurement and financial management:

Procurement and financial management arrangements have been reviewed by Bank specialists and, considered to be satisfactory to initiate project implementation. In addition, the agreed PMU Institutional Strengthening Action Plan is being satisfactorily implemented. Such Action Plan is described in a letter from the State Government to the Bank dated March 26, 2002 (See Annex 6).

The PMU will be responsible for providing technical leadership and for procurement, disbursement and special account keeping. It incorporates staff with experience in financial, procurement and disbursement matters. The format and content of the Financial Monitoring Report (FMR) have been agreed between the PMU and the Bank. They will be produced, on a transitional basis, from the existing system and ledgers. However, the PMU would contract out the design, and thereafter would maintain and operate an adequate automated MIS. TORs for the design of the systems have already been agreed. The agreed timetable for the implementation of this system, which is part of the Institutional Strengthening mentioned above, envisions that from the second FMR and onwards, they will be automatically generated by the PMU's automated Financial Management system to be put in place under the project

5. Environmental Environmental Category: B

5.1 Summarize the steps undertaken for environmental assessment and EMP (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

The project was designed to ensure compliance with the requirements of the Bank's umbrella policy on Environmental Assessment (OP 4.01). On balance, the project would be expected to produce largely positive or neutral project impacts. Despite these anticipated impacts, submission of an EA and respective EMP was considered prudent to ensure conformity with the aforementioned Bank policy. The borrower submitted the final draft EA in December 2001. This draft was reviewed by the LCSES Quality Assurance Team (QAT), which noted that "the project (if implemented successfully) will be highly positive from an environmental and social standpoint."

Project activities having potential environmental impacts would mostly be those financed by the RIF. As mentioned above, impacts of the majority would be positive or neutral--e.g., from improved soil and water conservation, replanting of riparian forests, water source protection, domestic sanitation and improved handling of pig waste. Impacts of any misdirected support for agricultural diversification, agro-processing, aquaculture or rehabilitation of small rural roads could, however, be negative. Strict environmental evaluation procedures and environmental licensing mechanisms, as well as proposing mitigation measures, are built in the management of the Fund (see para. 5.2 below).

The final EA and respective EMP were submitted by the borrower in December 2001 and, upon QAT review, sent to the Infoshop in Washington. For details on national consultation and disclosure of EA and EMP, see para. 5.4 below.

5.2 What are the main features of the EMP and are they adequate?

The EMP includes the following main features which are described below: (i) environmental screening, evaluation, approval and monitoring procedures for sub-projects submitted to the RIF; (ii) definition of responsibility for the EA of sub-projects and respective institutional arrangements; and (iii) action plan for strengthening EA capacity through the extensive training of project staff and key members of municipal administrations and other rural intermediaries.

Mainstreaming of EA procedures. Mitigation measures would be integrated into the screening, evaluation, approval and monitoring procedures for sub-projects submitted to the RIF. Requirements have been included in the Project Operational Manual. Proposals would be classified as Category 1 if no adverse impacts are foreseen and hence no mitigation measures are necessary, Category 2 if low impacts are anticipated and Category 3 if they are likely to

have moderate or significant environmental impacts. For Category 2 sub-projects, environmental issues and related mitigation measures would require detailed description. These would be incorporated into the project design before the sub-project could be submitted to the municipal deliberative body for approval. Category 3 sub-projects would require an environmental assessment study and mitigation proposals to be included in the submission to municipal bodies. An Environmental License could also be required from FATMA for Category 3 sub-projects, such as those proposing the implementation of small agro-industries or aquaculture systems. A list of 25 illustrative types of sub-projects is categorized according to this scheme in the borrower's draft EA. Category 3 sub-projects above US\$20,000 would be post-review by the Bank as part of its semi-annual supervision.

Responsibility for EA and institutional arrangements. Proposed sub-projects would be categorized by the extension "facilitators" who support MAs. Facilitators would advise municipal PMU offices accordingly; these municipal PMU staff would be accountable for final environmental review before submitting proposals to municipal deliberative bodies.

Strengthening EA capacity. All 440 microcatchment facilitators, PMU staff and key members of municipal administrations and other rural intermediaries would receive extensive training in environmental issues and procedures under the project's training component. Environmental requirements and procedures for sub-projects financed by the RIF or from other sources would also be widely publicized among the target group and members of deliberative bodies at municipal, regional and state levels.

5.3 For Category A and B projects, timeline and status of Environmental Assessment:

Date of receipt of final EA draft: December 10, 2001

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted.

Local preparation since 1998 has involved the participation of some 2,000 potential beneficiaries and other private stakeholders, indigenous representatives, NGOs, universities, local government and the intended implementing agencies. Consultations have reviewed environmental safeguards and operational procedures. During the final preparation stage (in December 2001), upon completion of the draft EA and EMP, the Government organized three public hearings, which included the participation of 103 representatives from the target group and other relevant government and non-government organizations. These consultations were aimed at discussing the project with stakeholders, including the proposed environment management plan. It took place in three of the State's regions (western, central and southern). Invitations for public participation at these events were published in 18 different newspapers circulated at the local, regional and state level. In addition, individual invitation letters were sent to key institutional representatives from the target beneficiaries (producers and rural works organizations and federations, etc.), municipal associations, credit institutions, universities and Environmental NGOs. In addition, the EA and EMP document is available to the public through three public libraries of the State: Environmental Management Foundation (FATMA), SDM and EPAGRI.

5.5. What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

Positive environmental impacts are a basic objective of the project; the monitoring and evaluation system would incorporate specific means to measure impacts. For the environmental monitoring and participatory impact evaluation, the following output and impact indicators would be measured and supported under the M&E Sub-component (see more details in Annexes 1 and 2): improvement of water quality in assisted microcatchments (including around 12 parameters to be measured systematically/fortnightly in pilot microcatchments and groundwater sampling stations/wells); improvement of natural resource management practices in all 880 microcatchments; about 1,680 development staff trained and operating in the project, including the aforementioned training in environmental issues and procedures; two ecological corridors in process of implementation; 880 microcatchment plans and three pilot watershed plans developed and implemented; 2,000 km of riparian forest replanted; and 11,000 pig waste treatment systems implemented. In addition to water quality, the aforementioned systematic monitoring of six pilot microcatchments would include the following social and environmental

indicators: (i) environmental aspects: vegetation cover, pesticide use reduction, soil-water content, adoption of agricultural conservation practices by farmers; (ii) socioeconomic aspects: effective participation and empowerment of communities in the project-related decision-making process, farmers' perception of environmental issues, improvement in family living conditions, financial and socioeconomic situation; and (iii) additional qualitative and quantitative parameters to compute the economic value of *external impacts* of natural resources management activities, such as the value of increased CO₂ stored, reduced sedimentation, reduced pesticide runoff and other environmental impacts on downstream users.

6. Social

6.1 Key social issues and planned social development outcomes (see Annex 11)

The poor rural families who are the project's priority target group earn less than one minimum salary ("marginal" beneficiaries) or less than two minimum salaries ("transition type 1" beneficiaries), in terms of net on-farm income, and make their livelihoods both from agricultural and non-agricultural activities. They include almost the entire population of ethnic minorities who live in rural areas. Social analysis (see in Annex 11 a summary of rural poverty in Santa Catarina and Annex 13 on IP) and widespread stakeholder consultation over four years of preparation, involving some 2,000 potential beneficiaries plus a full range of other project stakeholders, have characterized the specific constraints and opportunities facing this target group that would be addressed to alleviate their poverty. Crucial to success is the need to give beneficiaries the means, individually and collectively, to express their wants and to gain an equitable response from the development process that is proposed. This must lead eventually to project ownership and durability of the social structure that is created. Such empowerment implies building social capital among the poor, without which they would be unable to exploit the opportunities for the sustainable increases in production, income diversification, job creation, better living conditions and resource conservation that the project would offer.

Various social issues or obstacles to empowerment would be addressed, which between them maintain the *status quo*. They include lack of confidence, apathy and ignorance of opportunities on the side of beneficiaries; and the customs of paternalism, subordination and self-seeking among more privileged outsiders. Change would be introduced through the project's highly participatory approach. Prior publicity, an extensive training program and the creation of "deliberative" stakeholder bodies would be the principal means by which the project would alter social perception and behavior and build social capital, and thus contain social risks to project outcomes.

Particular attention will be given to the empowerment of IPs, who are represented by three ethnic groups, i.e., the Kaingang, Xokleng and Guarani peoples. With the objective of maximizing effective indigenous participation in the project, and to ensure compliance with the Bank OP 4.20, an Indigenous Peoples Strategy was developed during project preparation (see Annex 13). It includes: (i) major concerns and perceived needs of the aforementioned ethnic groups; (ii) how they will participate and be involved in project implementation; and (iii) how the project will support their transition to more sustainable livelihoods through access to the various project activities. The Strategy was reviewed by the Appraisal mission and subsequently reviewed and endorsed on February 8, 2002 by the LCSES QAT. The Strategy's provisions and requirements have been included in the draft Project Operational Manual.

6.2 Stakeholder participation in the project

During implementation, stakeholder participation and ownership of the project would be based on four design features. First, there would be an extensive preliminary program of dissemination of the project, explaining its aims, rules, strategies and procedures to all strata of rural society. Potential beneficiaries as well as potential implementers, partners and stakeholders in the private and voluntary sectors would all be covered. Second, intensive training, motivation and mobilization of stakeholders would start before and continue throughout the project: content, location and duration of training sessions, courses and events would be matched to the type of recipient. Third, there would be four levels of project decision-making or approval, ranging from the MA through municipal, regional and state levels: at every level beneficiaries or their representatives would comprise the majority on decision-making bodies (see Annex 12). Fourth, the operational procedures of the project and the support provided to beneficiaries to apply them would be oriented so as to ensure that decisions could only be taken communally and on the basis of democratic consensus.

6.3 Collaboration with NGOs and other organizations in civil society

The prolonged series of consultative workshops that were the basis of project preparation involved a wide range of NGOs, private sector and other organizations, many of which had already participated in the implementation of LM II. These organizations would continue to be involved in implementation, both through their representation on “deliberative” bodies and through providing contracted or commercial services in support of different aspects of project implementation.

6.4 Institutional arrangements to ensure that the project achieves its social development outcomes (see Annex 12)

Pre-publicity would include information to raise awareness among the target group of the project’s aims, opportunities and procedures. Training, setting up of the “deliberative” bodies at microcatchments, municipal and regional levels and operations of these bodies would all be backstopped and supervised by prepared project staff (see Annex 12 on Project Management). These would range from specialists who would be part of the PMU’s management team, to facilitators--supported by municipal social extensionists--who would help beneficiary communities to set up and operate their MAs, follow the criteria for use of the RIF and comply with other requirements of the Project Operational Manual. The monitoring and evaluation indicators used by project management would include those selected to track social progress. During the preparation of the Indigenous Peoples Strategy, particular attention was given to clearly identify and design how IP will participate and be involved during the project.

6.5 Monitoring of social development outcomes

Monitoring indicators would assess progress in institutional strengthening as well as social and environmental development. Beneficiary assessments would be the primary tool and would be conducted regularly in all microcatchments. These would be complemented by *ex-ante*, mid-term and *ex-post* impact evaluations (more details are described in Annex 2, M&E Sub-component).

7. Participatory Approach

a. Primary beneficiaries and other affected groups:

The rural poor, who would be the project’s primary beneficiaries, are marginal farmers or other rural dwellers with net on-farm income of less than two minimum monthly wages. They include those families classified as “marginal” or “*periféricos*” (with per capita net farm income of less than one minimum wage) and “economic transitional 1” (with per capita net farm income of less than two minimum wages), as well as most of the rural ethnic minorities (IPs) and landless laborers. Secondary beneficiaries, classified as “economic transition type 2”, are those with net on-farm income between one and two minimum wages. To reach this target group the project would supplement the participatory approaches of LM II, which effectively promoted improved land management but did not secure the commitment of poorer farmers and soon weakened once the project ended, with new elements. The main thrust of the changes would be to move from a consultative mode to one in which the target group would be empowered to drive the development process based on its own needs and demands. Thus the beneficiaries or their representatives would comprise more than 50% of the membership of the four types of “deliberative” bodies, described above, that are charged with deciding project actions at microcatchment, municipal, regional or state levels. Both training and implementation support for beneficiary stakeholders would emphasize the mechanisms, entitlements, obligations and skills implicit in fully participatory development. Project operational procedures and the rules of the RIF would be shaped to require a participatory mode of operation as a precondition for access to benefits. The training of project support staff would prepare and motivate them to work in a participatory mode.

b. Other key stakeholders:

Other key stakeholders in the project would include organizations within the state and municipal governments; the “deliberative” bodies at all four levels of decision-making; intermediary NGOs, such as those concerned with ethnic, poverty, gender or environmental issues; rural workers’ unions; cooperatives; commercial firms involved in the

meat, dairy agro industries; and organizations such as universities and special-interest lobbying groups. Many such stakeholders have been involved in project design during the prolonged consultation process and have been heard or informed on issues of importance to them. Topics of this dialogue are recorded in project files. Dialogue has covered targeting needs, beneficiary representation mechanisms for decision-making, requirements for technical assistance, sustainability and needs for a holistic approach and social control of the project agenda. Mechanisms to maintain this dialogue during project implementation and profit from the inputs of private or voluntary sector organizations with contributions to make, as well as to recruit new stakeholders along the way, now need attention. The forms of participation of different stakeholder categories, from information sharing to consultation, collaboration and planned involvement in management, are summarized in the table below.

Stakeholder Category	Identification/ Preparation	Implementation	Operation
Primary Beneficiaries	Collab	Collab/ Mgmt	Collab/ Mgmt
Microcatchment Associations	Collab / Cons / Is	Collab /Cons /Is/ Mgmt	Collab / Cons /Is /Mgmt
Municipalities	Cons / Is	Cons/ Is / Collab	Cons / Is / Collab
State Government	Cons/Is/ Collab	Cons / Is / Collab	Cons / Is / Collab
NGOs	Cons / Is	Cons / Is / Collab	Cons / Is / Collab
Private firms and other groups	Cons / Is	Cons / Is / Collab	Cons / Is /Collab

Is = Information sharing; Cons= Consultation; Collab= Collaboration; Mgmt= Management

F. Sustainability and Risks

1. Sustainability:

The project would improve beneficiaries' income through greater productivity of their existing systems, diversification of enterprises and job creation. Together, these would increase returns to their family labor and the limited cash resources they can afford to commit to agriculture. These gains would, for the most part, be achieved relatively soon. Evidence from LM II suggests that when these conditions are met, farmers continue to apply the improved technologies on which gains are based--i.e., the economic gains and the external benefits that derive from land management changes are sustained. The empowerment of the target group, its increased social capital and much greater influence over access to and use of development support, would reinforce economic and environmental sustainability. The gains would, however, be exposed to risks arising from further declines in the overall profitability of farming in Santa Catarina. This threat to sustainability would be minimized as part of the project's technical strategy as the project would seek to assist farmers to produce quality and distinct products and access market niches that could be ready to pay premium prices for food security and quality and distinct products. The Rural Investment Fund would be instrumental in inducing these changes.

Institutional sustainability is most often threatened by weakening government commitment to projects, leading to irregular counterpart funding, mistargeting of resources, political interference and removal of key staff. All evidence from LM II as well as the State Government's vigorous participatory preparation are against such a scenario. Participatory procedures are already being quite widely piloted, beneficiaries are involved and awaiting expansion of efforts and political will remains strong. Risks that the project will be affected by the lack of sustainability of Government or other stakeholder institutions are therefore considered low.

2. Critical Risks (reflecting assumptions in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
<p>Annex 1, cell "from Outputs to Objective" Project fails to reach target population</p>	S	<ul style="list-style-type: none"> - Rigorous targeting criteria used as a basis of microcatchment prioritization and selection. - Extensive publicity campaigns to ensure that target population has ample opportunities to be well informed about the project's objectives, opportunities and procedures. - Representatives of target population evenly represented at every level of decision-making ("deliberative" stakeholder bodies).
<p>Failure to sustain political commitment after elections (including regular provision of counterpart funds, maintenance of the agreed number of project extensionists, deployment of EPAGRI extensionists undertaken as agreed)</p>	S	<p>-Rural poverty reduction and environmental protection are state and national priorities (not only a specific government priority). The Bank has verified the high priority and interest of all sides of the political spectrum in project objectives. In addition, the LM II Project kept its priority during the entire project cycle, although it was implemented under three different administrations and about 12 different Secretaries of Agriculture. Moreover, the proposed project, like its predecessor, has very strong local government support and these officials are not up for election this year. The task team is already working actively with local governments to build on their support.</p>
<p>Improved concept and practices developed under the project not widely adopted by stakeholders and technical assistance providers and project staff do not adopt project methodology</p>	S	<p>-Project concept design emphasizes extensive training of farmers, municipal leaders, technicians and project management staff. Intensive training of about 300 project technicians has already started and is a prerequisite for start-up of field interventions scheduled for July 2002.</p>
<p>Civil society is not fully aware of the relevance of environmental problems to sustain livelihoods</p>	M	<p>- An extensive environmental education program is foreseen under the project, involving over 90,000 people.</p>
<p>Failure to pass/approve two key environmental laws at the State Legislature</p>	M	<p>-There is a high probability that the laws will be enacted. They have already been approved by all State Legislature commissions, a key prerequisite for final approval.</p>
<p>Insufficient institutional capacity, particularly of environmental agency, leading to poor implementation of the environmental management component</p>	M	<p>-SDM and FATMA have been very effective during project preparation. During implementation, they will promote the participation of NGOs as an important source of implementation services (e.g., through co-management of protected areas).</p>

Annex 1, cell "from Components to Outputs"		
Long-term commitment by target population	M	- Highly participatory approach and extensive training of target population leading to an increase in community empowerment and social capital.
Irregular flow of counterpart funds and failure to sustain political commitment after elections	M	-See above mitigation measure associated with risk of "failure to sustain political commitment after elections."
Stakeholders do not share the project's objectives and participatory management approaches and participate in implementation processes; and massive uptake by beneficiaries of economically, socially and environmentally sustainable practices for natural resource management, income and livelihood improvements	S	-See above mitigation measure associated with risk of "improved concept and practices developed under the project not widely adopted by stakeholders."
Maintenance of the agreed number of project extensionists	M	-See above mitigation measure associated with risk of "failure to sustain political commitment after elections."
Environmental laws are passed by the State Legislature	M	-There is a high probability that the laws will be enacted. They have already been approved by all State Legislature commissions, a key prerequisite for final approval.
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)

Timing. Due to earlier problems of creditworthiness, the project has entered the Bank's pipeline close to the end of the mandate of Santa Catarina's present administration. While Government commitment to the project has been sustained for many years and is not expected to waiver, it is politically desirable to have the Loan signed while the present administration remains in office.¹ The Government and the Bank have therefore accelerated their preparation efforts to the maximum to contain threats of possible slippage.

3. Possible Controversial Aspects:

There are no existing or envisaged controversial features of this project.

G: Main Loan Conditions

1. Effectiveness conditions:

- Adoption of Operational Manual, satisfactory to the Bank;
- Signing of Project Implementation Agreements between the Government, through SDA, and EPAGRI, FATMA and ICEPA

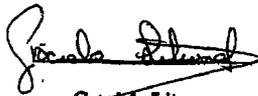
¹ The proposed processing timetable includes a tight schedule (see Annex 7) to enable the loan to be signed before April 30, 2002, the deadline for the current administration to sign any new commitment, due to provisions of the Fiscal Responsibility Law. Otherwise loan signature would be possible only after January 2003.

2. Loan Covenants:

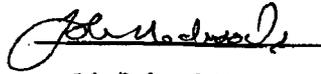
- Signing Cooperation Loan Agreement with FUNAI, at the latest, one year after Loan Effectiveness
- Submit annual Project Implementation Reports satisfactory to the Bank
- Submit to the Bank, by September 30 each year, the proposed Annual Operational Plan for the following year acceptable to the Bank, and 30 days after the passage of the budgetary law, the final Plan
- Submit to the Bank, not later than one year after effectiveness, the results of the studies in support to the State Structural Adjustment sub-component
- Implement the PMU Institutional Strengthening Action Plan in accordance with its terms.

H. Compliance with Bank Policies

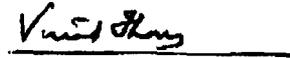
This project complies with all applicable Bank policies



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Latin America and the Caribbean Region

Brazil
State of Santa Catarina
Natural Resources Management and Rural Poverty Reduction Project

Annex 1: Project Design Summary

Hierarchy of Objectives	Key Performance Indicators	Monitoring and Evaluation	Critical Assumptions
<p>Sector-related CAS Goal:</p> <p>Rural poverty in the State of Santa Catarina reduced by:</p> <p>(i) Support for Government efforts to integrate environmental and social sustainability into development and poverty strategies to alleviate poverty and improve rural livelihoods;</p> <p>(ii) Enhanced local governance and community participation in decision-making;</p> <p>(iii) Reduced degradation and improved protection of the State's natural resources;</p> <p>(iv) Improved incomes and living conditions for the rural poor.</p>	<p>Sector Indicators:</p> <p>Incidence of poverty reduced in 70% of the 880 microcatchments assisted by the project</p> <p>Project participative mechanisms operating at all levels (community, microcatchment, municipal, regional and state)</p> <p>Two key state environmental laws regulated and disseminated throughout the State</p> <p>One State Park consolidated and two ecological corridors designed and their implementation initiated</p> <p>Demonstration models for integrated watershed and microcatchment management developed and validated in three pilot watersheds</p> <p>Natural resource management practices improved in all 880 microcatchments assisted by the project</p> <p>Improved family incomes</p>	<p>Sector/Country Reports:</p> <p>Poverty assessments from ex-ante, mid-term and ex-post evaluation reports based on State and National statistics (IBGE), project M&E and structured interviews</p> <p>Project Management Reports (PMRs) and M&E reports</p> <p>Official gazette and PMRs</p> <p>PMRs and M&E reports</p> <p>PMRs and M&E reports</p> <p>Ex-ante, Mid-term and Ex-post evaluation reports, PMRs and M&E reports</p>	<p>(from Goal to Bank Mission)</p> <p>Political commitment to alleviate poverty and to address environmental degradation is maintained (demonstrated by regular provision of counterpart funds, maintenance of the agreed number of project extensionists and minimal transfers of PMU staff)</p> <p>Capacity for community mobilization is assured; reluctance of communities and project staff to take participatory action can be overcome; resistance of farmers to technical change is minimal</p> <p>Environmental laws are passed/approved by the State Legislature</p> <p>Institutional capacity of environmental institutions is adequate to implement these project activities</p> <p>Stakeholders accept project objectives and participate in implementation processes</p> <p>Massive uptake by beneficiaries of economically, socially and environmentally sustainable practices for natural resource management, income and livelihood improvements</p>

	<p>Social capital increased in assisted microcatchments</p> <p>Net incomes of rural families increased</p>		<p>Resources of Rural Development Fund are consistently available</p> <p>Cost-price relations remain favorable</p> <p>Macroeconomic shocks or natural disasters do not reverse gains in poverty alleviation and income generation</p>
<p>Project Development Objective:</p> <p>Support institutional and organizational development to promote income improvement and sustainable use of natural resources, based on the planning and management of microcatchments.</p> <p>Support social, productive and environmental investment projects identified in microcatchment development plans.</p> <p>Reverse land and water degradation in microcatchments and protect the State's natural resources in watersheds, protected areas and ecological corridors.</p> <p>Strengthen the State's capacity for the management, monitoring and evaluation of sustainable rural development projects.</p>	<p>Outcome/Impact</p> <p>1,100 appropriately trained and equipped development staff deployed by the project</p> <p>50,000 individual or group investment plans prepared</p> <p>Management plans for three watersheds (sub-catchments) prepared</p> <p>Two ecological corridors in process of implementation and one State Park consolidated</p> <p>External impact of NRM activities analyzed on a pilot basis (and integrated into the economic analysis) and compensation mechanisms identified</p> <p>Project implementation arrangements in operation</p> <p>70% of families participate in microcatchment events</p>	<p>Indicators:</p> <p>PMRs, M&E</p>	<p>(from Objective to Goal)</p> <p>The State devises the means to mobilize the necessary personnel within limits on public sector recruitment imposed by the Federal Legislation (<i>Lei de Responsabilidade Fiscal</i>)</p> <p>Extensionists operating, trained to motivate, plan and supervise investments</p> <p>Resources of RIF are consistently available</p> <p>No major institutional constraints encountered in the implementing organizations</p> <p>Conflicts between economic and environmental interests are overcome</p> <p>Coordinated efforts by the implementing organizations</p> <p>Successful inter-organizational integration</p> <p>Resources needed for implementation at disposal of implementers</p> <p>Target group receptive</p>

Output from each component:	Output Indicators:		(from Output to Objectives)
<p>Component 1: Institutional Development and Organization</p> <p><i>Sub-component 1.1: Training</i></p> <p><u>Output 1.1.1</u> Stakeholders trained to promote economic, social and environmental sustainability at microcatchment level.</p>	<p>92,300 stakeholders trained, including 75,000 small farmers, IP and rural workers, 14,650 municipal leaders, 1,681 technicians, 100 local instructors, 30 project management staff, 293 administrative staff, and 580 municipal road machine operators</p>	<p>PMRs, M&E, mid-term and ex-post evaluations</p>	<p>Project does not fail to reach intended target population</p> <p>EPAGRI training centers available on the dates required</p> <p>Losses of trained technicians are low</p>
<p><i>Sub-component 1.2: Environmental Education</i></p> <p><u>Output 1.2.1</u> Farmers and fishermen aware of, and committed to, solving environmental problems as part of strategies for livelihood development.</p>	<p>92,850 participants in environmental education events, including 11,000 members of environmental working groups, 14,650 municipal leaders and 75,000 producers/family farmers</p>	<p>PMRs, M&E, mid-term and ex-post evaluations</p>	<p>Civil society aware of the relevance of environmental problems to sustainable livelihoods</p> <p>Stakeholders apply improved concepts and practices</p>
<p><u>Output 1.2.2</u> Municipal and State schools in the project area develop environmental education, in accord with Federal Government laws.</p>	<p>1,000 schools recruited and 1,000 environmental teaching projects are implemented</p>	<p>PMRs, M&E, mid-term and ex-post evaluations</p>	
<p><i>Sub-component 1.3: Rural Extension</i></p> <p><u>Output 1.3.1</u> Technicians and social extensionists trained and giving effective support to rural development at all levels.</p>	<p>1,103 extension agents trained and operating in the project area, comprising 440 facilitators at community /microcatchment level, plus 586 municipal-level, 70 regional and 7 state-level staff</p> <p>Project Operational Manual published and updated twice during disbursement</p> <p>880 microcatchment and 70,000 individual farm plans prepared</p> <p>105,000 rural families assisted (including small farmers, IP and rural workers)</p>	<p>PMRs, M&E, mid-term and ex-post evaluations</p>	<p>Extensionists recruited and deployed as planned</p> <p>No political interference in their work, and political commitment sustained after elections</p> <p>No loss of motivation or resignations due to inadequate salaries or administrative problems</p> <p>Extensionist training is adequate for the tasks required</p> <p>Effective links between extension and research in the identification of problems and diffusion of results</p>

<p><i>Sub-component 1.4: Adaptive and Social Research</i></p> <p><u>Output 1.4.1</u> Adaptive and social research to overcome specific technical, economic, social or environmental constraints in project microcatchments.</p> <p><u>Output 1.4.2</u> Socio-environmental mapping of the 880 project microcatchments to support planning for sustainable development.</p> <p><i>Sub-component 154: Technical Assistance Adjustment</i></p> <p>Component 2: Rural Investment</p> <p><u>Output 2.1.1</u> Investments identified and carried out to support economic, social and environmental sustainability of rural livelihoods.</p>	<p>336 adaptive research trials carried out</p> <p>Agricultural census of 250 municipalities</p> <p>880 microcatchments mapped</p> <p>Successfully complete and discuss results of studies on:</p> <ul style="list-style-type: none"> - poverty programs targeting and impact - micro-finance program evaluation - CELESC Restructuring <p>Successfully complete and discuss 4 studies on water sector</p> <p>2,350 individual or group-operated projects set up to increase value-added of agricultural products</p> <p>50,000 families applying improved land management practices</p> <p>40,000 families applying improved production systems</p> <p>15,000 rural homes improved and equipped with basic sanitation</p> <p>11,100 farmers disposing of pig waste satisfactorily</p> <p>30,000 families using protected water sources</p> <p>Replanting of 2,000 km of riparian gallery forest</p>	<p>PMRs, M&E, interim and ex-post evaluations</p> <p>PMRs, M&E, interim and ex-post evaluations</p> <p>PMRs, M&E reports</p> <p>PMRs, M&E</p>	<p>Existence of competent organizations for the work required</p> <p>Incumbent and new Governments interested in further reforms</p> <p>Incumbent and new Governments interested in further reforms</p> <p>Regular flow of counterpart funds</p> <p>Project protected from political interference</p> <p>Financing that is provided conforms to norms for environmental protection and is fully integrated with the project procedures for environmental assessment</p> <p>Institutional capacity of</p>
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<p>Component 3: Environmental Management</p> <p><i>Sub-component 3.1: Watershed Management</i></p> <p><u>Output 3.1.1</u> Sub-catchment plans prepared and in process of implementation.</p> <p><i>Sub-component 3.2: Ecological Corridors and Protected Areas</i></p> <p><u>Output 3.2.1</u> Ecological corridors identified and in process of establishment.</p> <p><u>Output 3.2.2</u> Protected areas consolidated or in process of consolidation.</p> <p><u>Output 3.2.3</u> Norms for a State System of Protected Areas (SEUC) are released and economic incentives (Ecological VAT) for stakeholder participation created.</p>	<p>3 watershed/sub-catchment plans in implementation</p> <p>Two ecological corridors under implementation</p> <p>One existing State Park consolidated (Tabuleiro)</p> <p>Regulations to establish a single coherent SEUC and provide incentives (<i>ICMS Ecológico</i>) released and disseminated</p> <p>Legislation being applied state-wide</p>	<p>PMRs, M&E, mid-term and ex-post evaluations</p> <p>PMRs, mid-term and ex-post evaluations</p> <p>Official gazette and PMRs</p> <p>PMRs, M&E, mid-term and ex-post evaluations</p>	<p>environmental institutions is adequate to implement these project activities</p> <p>Stakeholders receptive to watershed management concept and participate in the process</p> <p>Institutional capacity of environmental institutions is adequate to implement these project activities</p> <p>Stakeholders share the ecological corridors concept and participate in the process</p> <p>SEUC and ICMS Environmental laws are passed/approved by the State Legislature</p>
<p>Component 4: Project Management, Monitoring and Evaluation</p> <p><i>Sub-component 4.1: Project Management</i></p> <p><u>Output 4.1.1</u> Project management structure set up, working and able to integrate project actions with those of other programs for sustainable rural development.</p> <p><i>Sub-component 4.2: Monitoring and Evaluation</i></p> <p><u>Output 4.2.1</u> Project progress and impacts monitored and</p>	<p>Project management units at state and regional levels and stakeholder bodies at state, municipal and microcatchment levels legally established and operating</p> <p>M&E system set up and results published and disseminated by the project</p> <p>Stakeholder bodies at state,</p>	<p>Legal documentation</p> <p>PMRs, M&E, evaluations</p> <p>Approved M&E manual</p>	<p>Applications for establishment of legal status are approved by the competent authorities</p> <p>Stakeholders willing to participate in M&E activities</p> <p>Approvals are given by the competent legal authorities</p>

<p>evaluated; results distributed at local, state and national levels.</p> <p><i>Sub-component 4.3: Community Organization</i></p> <p><i>Output 4.3.1</i> Mechanisms for participatory project management set up and operating.</p>	<p>regional and microcatchment levels legally established and in operation</p>	<p>Legal documentation</p> <p>PMRs, M&E, mid-term and ex-post evaluations</p>	
<p>Project Components/Sub-components:</p> <ol style="list-style-type: none"> 1. Institutional Development and Organization 2. Rural Investment 3. Environmental Management 4. Project Management, Monitoring and Evaluation 5. Front end Fee 	<p>Inputs: (budget for each component)</p> <ol style="list-style-type: none"> 1. US\$ 17.9 million 2. US\$ 77.2 million 3. US\$ 3.8 million 4. US\$ 8.0 million 5. US\$ 0.6 million 	<p>Project Reports:</p> <p>PMRs (Bi-annual) and WB bi-annual Supervision missions</p>	<p>(from Components to Outputs)</p> <p>Regular/timely flow of counterpart funds</p> <p>Stakeholders share the project objectives and participatory management approaches and participate in implementation processes</p> <p>Massive uptake by beneficiaries of economically, socially and environmentally sustainable practices for natural resource management, income and livelihood improvements</p> <p>Maintenance of the agreed number of project extensionists</p> <p>Environmental laws are passed by the State Legislature</p> <p>Long-term commitment by target population</p>

Brazil
Santa Catarina
Natural Resources Management and Rural Poverty Reduction Project
Annex 2: Detailed Project Description

Project Overview

The project would support poverty reduction—the Bank’s central CAS objective for Brazil. Its goal would be to improve living conditions among small-scale and marginal farmers, IP, and other marginalized rural groups in Santa Catarina. It would be implemented over six years and has four main components:

1. Institutional Development and Organization
 - Subcomponent 1.1: Training*
 - Subcomponent 1.2: Environmental Education*
 - Subcomponent 1.3: Rural Extension*
 - Subcomponent 1.4: Adaptive and Social Research*
 - Subcomponent 1.5: Technical Assistance for Structural Adjustment*
2. Rural Investment
3. Environmental Management
 - Subcomponent 3.1: Watershed Management*
 - Subcomponent 3.2: Ecological Corridors and Protected Areas*
4. Project Management, Monitoring and Evaluation
 - Subcomponent 4.1: Project Management*
 - Subcomponent 4.2: Monitoring and Evaluation*
 - Subcomponent 4.3: Community Organization*
5. Front End Fee

The Project would have a total cost of US\$107.5 million, of which the Bank would finance about 58.4%. It would be implemented using a highly participatory, demand-led approach under the executive responsibility of the SDA (to which a small PMU would be attached). Project interventions would be concentrated in the areas considered most impoverished and facing the most critical environmental problems and in microcatchments with high concentrations of marginalized rural people. It would involve 880 microcatchments (about half of the microcatchments in the State), cover 3.6 million hectares of land, and reach 105,000 farm families. Areas subject to conservation planning or receiving environmental protection would total about 850,000 hectares. Appendix 1 summarizes key numerical targets of the project.

Project components have been designed so that, acting separately or in synergy, they would address the following underlying causes of the increasing rural poverty in Santa Catarina:

- *Rural poverty:* Through the application of clear criteria for targeting the rural poor, and a highly participatory and decentralized diagnosis at the local and even the farm level, the project would concentrate its efforts on addressing the main causes of rural poverty.
- *Low quality of life of the rural poor:* The impacts on family health from substandard housing, lack of sanitation, and polluted domestic water supplies would be addressed through grants for the rural poor.
- *Insufficient knowledge of participatory methods by technical staff:* Project implementers and beneficiaries would be exposed to effective participatory methods, which are essential to achieve good governance. A strong training program proved to be an important tool to induce much-needed technical changes under the LM II.
- *Land degradation:* Addressing continuing degradation, declining productivity, and falling earnings from the land of poor and marginal farmers would be a priority of the project. These farmers were the least able to take advantage of the technical support and incentives offered by the previous LM II project.
- *Water pollution:* Water pollution due to farm intensification and the increasing concentration of pig, poultry and

pig-aquaculture production (a result of macroeconomic adjustment and more open markets) would be addressed by resolving water and other environmental conflicts to directly improve quality of life for beneficiaries and society at large. It will also increase opportunities to supply sophisticated markets willing to pay premium prices for certified food products (e.g., organic). Support for the adoption of Conservation Agreements and Terms of Adjustment of Conduct to resolve environmental conflicts associated with water pollution from animal waste and other relevant polluters will help to achieve a more sustainable management of natural resources.

- *Lack of opportunities to reach niche markets:* Lack of market opportunities for poor and marginalized farmers due to poor access and weak bargaining power will be addressed through initiatives aimed at helping them form viable producer associations. Such groups can achieve greater economies of scale and diversify into alternative products, thereby helping them develop or access niche markets. Addressing this issue will allow poor and marginalized farmers to earn price premiums and greater profit margins that could help offset declining incomes from their staple crops.
- *Lack of resources and technical information:* Seed capital, technical assistance, and information needed to increase value-added from agricultural products and to facilitate certification of origin would be provided to poorer and more marginal farmers to help put them on the path toward poverty reduction.
- *Poor integration of programs and policies at the local level:* The limited and uncoordinated flow of resources reaching the target area and population, and the limited knowledge of the productive base, would be addressed through adoption of a decentralized approach focused on local decision-making by properly trained decision-making bodies. Municipal and microcatchment participatory diagnostics and other planning mechanisms have proven to be strategic instruments for integrating policies and programs and increasing the effectiveness and impact of public resources available for poverty reduction and environmental management at the local level.
- *Insufficient integration of land, water and conservation activities and programs:* The broader, longer-term environmental threats to land, water and biodiversity resources which if further neglected will negate short-term livelihood gains, would be addressed by piloting the preparation and initial implementation of river basin sub-catchment plans (or watershed plans) using the project microcatchment plans as building blocks and involving a broad spectrum of watershed stakeholders.
- *Monitoring and evaluation* would follow a detailed M&E system to be designed prior to project start-up. Facilitators would contribute progress reports with the formats and frequency required, which would be aggregated by project staff up to higher levels. Participation of the beneficiaries in M&E would be maximized: they would be provided with feedback and share in decisions on any necessary mid-course corrections. Consolidated M&E reports would be submitted to the Bank. Independent ex-ante, mid-term and ex-post evaluations would be contracted by the PMU.

The project implementation strategy would derive mainly from that of LM II, also taking into account the lessons learned during implementation of the Paraná Land Management I, São Paulo Land Management III and Paraná Poverty Reduction projects. It incorporates and further extends subsequent progress achieved by EPAGRI in targeting and outreach to the rural poor. While the targeting criteria for LM II emphasized soil erodability, poverty is the main targeting factor for the current project, with environmental degradation as a second priority. As in the case of LM II, the planning and implementation unit for the project will be the microcatchment, thereby capitalizing on existing organizations at the local level. Training of both implementers and beneficiaries will be a strong tool for achieving project objectives; however, greater emphasis will be given to training on participatory methods and to including members of all decision-making bodies. The proposed project would seek to rehabilitate and improve the productive base of rural producers. However, in contrast with the LM II, the proposed project would also include resources to increase post-harvest value-added from agricultural production as well as reconversion of farming systems since small-scale producers will need to offer high quality, specialized products that can command price premiums if they are to make their relatively small-scale production economically viable.

In accordance with this overall strategy, the proposed project would stress the need to achieve integrated environmentally sound production practices at the farm, microcatchment and regional levels and, on a pilot basis, at the watershed level. To that end, and as part of its strategy, the project would disseminate, promote and implement the scheme piloted by FATMA, SDM and EPAGRI to resolve environmental conflicts at the microcatchment, river sub-basin and basin levels, and strengthen partnerships with the processing industry. It would support education efforts directed at developing environmental awareness and promoting personal responsibility for the environment throughout rural Santa Catarina. In addition, under the Environmental Management Component, the project would adopt an integrated management strategy to address ecological, social and economic objectives at the microcatchment

and watershed levels. Based on the successful experiences and results of the LM II Project, key stakeholders at the local level would identify the building blocks needed to facilitate planning and implementation of watershed or basin management policies. Because the microcatchment is the natural fundamental unit for this process, this strategy would be the basis for implementing the State and National Water Resource Laws. The project would support the creation and development (or strengthening) of watershed committees, watershed plans, ecological corridors and protected areas, integrating natural resources management and conservation actions with those planned and implemented at the microcatchment level in three selected pilot watersheds. The project would also support government efforts to "harmonize" existing environmental and water resources laws and policies, including establishment of a single coherent system of protected areas, the definition of the legal and institutional framework governing the water resources sector in the State and the provision of incentives to increase the role of municipalities and the private sector in protecting important endangered ecosystems of the State.

The proposed project would also include a grant component to help farmers adopt environmentally sound agricultural practices in support of the above-mentioned strategy. To the extent that these practices would bring about off-farm public goods benefits, other farmers would also receive grant financing but at a much reduced rate. In contrast with its predecessor, the proposed project would also include grant financing for the poorest beneficiaries to improve their housing and sanitation and to create alternative sources of income, including new off-farm employment opportunities. The project would act as a catalyst for other federal, state and/or municipal programs in support of sustainable development of Santa Catarina's rural areas. It would stress participatory, demand-led planning. Priority setting and decision-making would be in the hands of entities in which beneficiaries and other stakeholders outside government would predominate. Implementation responsibilities and cost sharing would be entrusted as appropriate to the municipalities, microcatchments, community groups or individual beneficiaries.

The approach would be underpinned by major strengthening and expansion of mechanisms for participatory development, to ensure that the demands of the rural poor dominate decision-making and implementation. The final draft Operational Manual containing the project organization, operation and technical strategy was made available at Loan Negotiations and will be approved as a condition for Loan Effectiveness.

Detailed Descriptions:

1. Institutional Development and Organization (US\$17.9 million; 16.7% of total project cost)

Sub-component: Training (US\$4.6 million; 4.3% of total project cost)

Through this sub-component the project would prepare both project implementers and beneficiaries for behavioral changes and new modes of operation that are implicit in the participatory, demand-led approach that would be used for project implementation. Training in the principles and practice of rural diagnosis, group formation and operation, participatory planning and stakeholder monitoring would be complemented by appropriate practical or technical courses. The latter would be demand-driven as identified in the microcatchment development plans and would cover, for instance, (a) techniques for sustainable land management; (b) product diversification, processing, or marketing; (c) sustainable improvements to social infrastructure or habitation; and (d) environmental protection. Training would in all cases focus on preparation for actions at the microcatchment level—either by the beneficiaries themselves or by project personnel who would facilitate and support beneficiary efforts. The duration and content of courses would be tailored to the category of recipient—management staff, stakeholder associations, extensionists in frontline or supporting roles, beneficiary farmers, etc. Training would be supplemented by an annual managers' seminar to review progress and learning visits by farmers to other microcatchments either in Santa Catarina or in another State that is implementing projects with similar approaches.

Farmers, indigenous peoples and rural laborers would be the most numerous trainees under the sub-component: 10,000 would benefit in year 1, followed by 27,000 in year 2; between 12,000 and 14,000 would benefit annually thereafter, giving an accumulated total of 75,000. Local leaders from the community, microcatchment or municipal level would be given two-day orientation courses during years 1 and 2; a total of 14,650 would benefit. In the first year, 100 instructors and 30 executive unit managers would be trained. Training of about 1,680 technicians—mostly agricultural or social, public, and private extensionists and community facilitators—would be spread through the first three years. In addition, about 580 municipal road machine operators would be trained from years 2 through 5. In all, about 92,300 stakeholders would be trained. The composition of the training team within EPAGRI and the

terms of reference for the training of the first six months of the project were reviewed and agreed at Appraisal. Further details of course duration, subjects and phasing are included in project files.

In addition, necessary updates of the project's Operational Manual during project implementation and the publishing of a manual on *Good Practices in Road Rehabilitation*, based on the experiences of the LM II, would be financed under this sub-component. The latter would guide the training of municipal road machine operators and possible road rehabilitation works to be financed under the RIF.

The sub-component, as well as environmental education (see below), would be implemented by EPAGRI using its regional and municipal training facilities. Teaching would be by its own or contracted out either to individual trainers or to specialized organizations and/or NGOs with proven experience in this field. Planning, coordination and supervision would be the responsibility of a training and education specialist in the PMU, acting with training officers located in each of the 14 regions.

Sub-component: Environmental Education (US\$1.2 million; 1.2% of total project cost)

Environmental education would increase stakeholder awareness of the need to address environmental problems as a way to improve their rural livelihood. It would support education efforts throughout rural Santa Catarina directed at developing environmental awareness and promoting a sense of personal responsibility toward the environment. Environmental Education (EE) under the project is defined by the following principles and characteristics: (i) incorporates a human element in exploring environmental problems and their solutions; (ii) promotes knowledge about social and ecological systems within and beyond microcatchments benefited under the project; (iii) analyzes environmental problems, their resolution and the prevention of new problems; and (iv) promotes a change in attitudes and encourages necessary commitments to build a sustainable society.

Environmental education activities would be implemented at the *rural school* and *microcatchment* levels and in close coordination with activities in other project sub-components, in particular the Training, Rural Extension, Rural Investment and Environmental Management sub-components. The work with *rural schools* would target around 1,000 schools in the project area (mostly located within or around the project's targeted microcatchments). It would facilitate and promote awareness, appreciation, knowledge and stewardship of natural resources. It would also support partnerships with the departments of education at the municipal and state levels and would provide technical assistance to build skills that enhance the awareness and abilities of both teachers and students to achieve the objectives and principles of the sub-components. Specifically, EE activities would include: (i) development and dissemination of classroom-ready teaching aids and materials, such as the EE teacher's guide (10,000 copies) and EE syllabus (190,000 copies); (ii) presentation of 50 "environmental awards" to schools that improve their environmental education efforts; (iii) organization of 586 workshops with school staff (two per municipality); organization of 130 seminars with school parents and 130 field trips and outdoor workshops for primary and high school students; (iv) technical assistance to support the preparation of EE projects in the target schools; and (v) support to EE school group formation to enhance the abilities of teachers and students in problem solving, leadership, decision-making and cooperation.

To achieve the aforementioned sub-component objectives at the *microcatchment* level, the project would implement a series of EE capacity building and technical assistance activities with communities through a programmatic approach. They would include: (i) organization of courses and workshops that would be tailored to the needs of different stakeholder groups, distributed over the whole disbursement period, reaching 75,000 farming or fishing families, 11,000 members of environmental working groups (farmers' family members and other microcatchment citizens), 14,650 local leaders, 1,000 indigenous peoples and 1,680 technicians (EPAGRI animators, microcatchment facilitators, municipal technicians);¹ (ii) establishment of partnerships with governmental and non-governmental institutions to undertake joint EE activities; (iii) work with microcatchment and watershed communities in the preparation of EE materials; and (iv) technical assistance to communities within

¹ Environmental and water laws and regulations, as well as principles, norms and procedures for environmental classification and clearance of sub-projects financed by the RIF would also be explained. Moreover, in exploring environmental problems and their solutions, course content would consider environmental solutions not only from the scientific perspective, but also from the historical, political, economic and cultural perspective.

microcatchments to support the preparation of EE projects. Details of course content, duration and phasing have been reviewed at Appraisal.

Sub-component: Rural Extension (US 6.0 million; 5.6% of total project cost)

Rural extension would be a central project activity. Its main role would be to promote the project among the rural poor by providing information, assisting group formation, helping beneficiaries prepare microcatchment and farm plans, assembling community demands for social as well as technical and financial support arising from those plans and helping with implementation at the community level. They would be the beneficiaries' primary source of advice and support on social, environmental and technical matters. Extensionists would be trained by specialists to prepare them for these multiple tasks. By the second year of implementation, there would be about 440 facilitators operating at the community level directly assisting MAs. They would be employed by the MAs, which would be eligible for grant funding from the RIF. Alternatively, facilitator costs may be met by municipalities, NGOs or private funding. The Fund would support extensionist costs on a decreasing scale, contributing 100% of the cost during the first year of the project, but only 40% by the end of the project. After the project, MAs would be expected to finance the full cost of extension at the microcatchment level either through their own means or through alternative financing sources. Facilitators would each assist two microcatchments and would be based within one of them. They would start their work in one microcatchment with substantive support by the animator, and normally would only initiate work on a second microcatchment during their second year in the field. The project would provide initial and in-service training as well as transportation to ensure needed mobility.

Extensionists, termed as "animators," and subject matter specialists, would back up the above-mentioned facilitators and be based at the municipal and regional levels. They would either be from the EPAGRI cadre or be hired by the municipalities with their own funds. About three-quarters of municipalities now employ their own extensionists; as decentralization continues even further under the influence of the project, this proportion of municipal extensionists is expected to rise substantially.

Overall, the extension structure would consist of:

- State level—a project extension coordinator, who would be one member of the PMU.
- Regional level—14 regional coordinators and 56 subject matter specialists, totaling 70 regional project staff.
- Municipal level—586 extensionists, comprising one technical and one social extensionist per municipality.
- Microcatchment level—440 facilitators, who would be financed by the project and hired by the MAs.

In addition to relying extensively on redeployment of the existing EPAGRI extension labor force in line with the project objectives and priority project areas, the sub-component would operate out of EPAGRI's existing state and regional offices. Consistent with national policies for decentralization, municipalities would be encouraged to assume as much as possible of the incremental costs of filling gaps in the "animator" grade of extensionists, based at the municipal level. Technical assistance to farmers is expected to be complemented by about 490 public- and private-sector technicians to be trained by the project. There reportedly is an abundant supply of young graduates or degree-holders in agriculture available for project recruiting.

By full development, the sub-component would support 105,000 families (including farmers, IPs, and rural laborers) distributed through some 1,800 rural communities. With its assistance, sustainable development plans focusing on poverty reduction would be prepared for all 880 microcatchments, incorporating 70,000 individual farm plans.

Execution of this sub-component would be the responsibility of EPAGRI through the project extension and research coordinator, who would be a member of the PMU. He or she would coordinate the work programs of senior extensionists and subject-matter specialists based in existing EPAGRI regional offices, which would oversee and support interactions of facilitators with microcatchment associations on the ground. Municipal senior extensionists would assemble the microcatchment plans prepared and approved by the MAs for submission to municipal (or where appropriate, regional) deliberative stakeholder bodies for their approval. Once approved, the same extension chain would assist communities and individuals with implementation.

Sub-component: Adaptive and Social Research (US\$4.6 million; 4.3% of total project cost)

Research would underpin technical and social change among the target group by filling key information gaps. Technical and socioeconomic research topics would respond directly to needs that arise from demand-led development plans originating with the full participation of beneficiaries. Technology constraints and opportunities were identified during project preparation. A technology gap analysis is available in project files.

In particular, research under the sub-component would include:

- Preparation of the microcatchment maps, which are essential for the preparation of microcatchment diagnoses and plans.
- Municipal agricultural censuses.
- Technical and socioeconomic studies to identify constraints affecting the target groups that are amenable to research-based solutions.
- Finance research on studies of farming and environmental issues aimed at developing profitable, sustainable and environmentally acceptable improvements.
- Diversification and marketing studies to orient individual and collective income-enhancing projects by the target group.
- Dissemination of research results through farmer adaptive trials, demonstrations, meetings and publications.
- Monitoring of technology change by producers and resulting economic and environmental impacts.

Technical and socioeconomic research would be financed through a competitive process. Only pre-qualified organizations of known competence would be invited to bid; a list of qualified organizations is available in project files. The sub-component would finance about 336 adaptive research trials: these would complement the relevant ongoing research programs of EPAGRI and other institutions, which should be continued without project support. A committee of eminent scientists and farmer representatives, created especially for the project, would review grant applications. For technical proposals, approval criteria would emphasize participatory adaptation of technology by farmers.

In addition to grant-funded research, the sub-component would finance the agricultural census of 250 municipalities to refine the database to be used to select priority microcatchments for project support. In addition, it would also finance preparation of maps of all 880 microcatchments to be used for the preparation of the microcatchment diagnoses and management plans.

Based on a gap analysis to be performed at the microcatchment level as part of the microcatchment diagnostic, extensionists at the municipal level would be responsible, in the first instance, for consolidating and identifying potential demands for research topics. These would be consolidated at the regional and PMU levels, and then those reprioritized by the panel of eminent scientists would be considered for funding. Pre-qualified, competent organizations considered likely to be interested in applying to submit proposals would then be invited. Applications would be submitted for review by the panel of eminent scientists with the participation of the PMU research sub-component coordinator. When approved, proposals will be passed to the financial unit of the PMU. The PMU extension and research coordinator would oversee execution and reporting of projects funded by the research sub-component.

Sub-component: Technical Assistance in Support of the State Structural Reform (US\$1.5 million; 1.4% of total project cost)

The project would finance special studies and consultant services to assist the State in its structural adjustment effort to cover the following areas: (i) evaluation of State poverty reduction programs and policies, including its micro- and rural credit and social inclusion schemes; and (ii) alternatives to reform the water (including watershed management) and the energy public services. Given the complexity and relevance of the issues to be covered by these studies, this sub-component would be coordinated by the Governor's Secretariat. TORs will be developed and consultants contracted by the Government following standard Bank procurement procedures. Because the Government is interested in starting a number of these studies even before Loan Signature, contracting of these studies would qualify for retroactive financing. At the end of the studies, the Government and Bank will discuss findings and possible dissemination of results. Government would also provide the Bank, by May 30 each year,

with copies of the annual reports of agreements with the Secretariat of the National Treasury (STN). The specific studies under this sub-component are the following:

Two studies would review important elements of the State Strategy on Poverty Reduction as follows. First, a micro-finance study would evaluate the performance and adequacy of the State's credit and other financial assistance mechanisms available to the urban and rural poor, establish indicators and benchmarks for assessing performance (including targeting, coverage, sustainability, impact/use of funds) and for evaluating how existing operations and coverage could be improved. TORs would be presented to the Bank six months after Loan Effectiveness, and the study would be concluded during the second year of the project. Second, a study to assist the State Government with various aspects of the State's Social Inclusion Program "Programa Catarinense de Inclusão Social" which was recently approved by the legislature whereby a number of programs in eight Secretariats would be reallocated to the poorest municipalities as provided for in this new law using the Santa Catarina index of social development (IDS) as its main targeting criteria. The study would, inter alia, assess the likely incidence of using the IDS in reallocating resources to the target poor population, develop a methodology to evaluate the results of the Program in terms of the efficiency and efficacy in reducing poverty and make recommendations regarding improvements to the IDS methodology and on possible reallocation of funds within programs. TOR would be submitted to the Bank, within three months following Loan Effectiveness; and the study would be concluded during the first year of the Project although an amount may be set aside to assist with monitoring and evaluation in subsequent years.

Four studies are foreseen in the Water Resources Management and Water Supply and Sewerage Sector; these studies would be completed within the first year of the project. First, the main objectives of the Water Resources Management System would be to revamp the legal and institutional framework governing the water resources sector in the State of Santa Catarina and to strengthen its management system. Particular objectives of the study include: (i) reviewing a recently prepared analysis of the State's existing legislation on water resources; (ii) assessing the current institutional arrangements governing Santa Catarina's water resources management system and recommending alternatives to strengthen it; and (iii) defining and implementing specific management tools. Second, the objective of the study on the Water Supply & Sanitation Sector Structure would be to define a sector structure and regulatory framework for the provision of water supply and sanitation services in the State of Santa Catarina. In particular, the study would: (i) analyze the present conditions of service provision and regulation in the State; (ii) formulate alternative ways for structuring and organizing the provision of water and sewerage services in the State of Santa Catarina, assessing the relevant legal, institutional, economic, financial, social, environmental and political characteristics of the State; (iii) review the general conception and current regulatory arrangements in the State of Santa Catarina, in particular its relationship with legal and institutional arrangements under consideration; and (iv) define a strategy and a detailed action plan for implementing the selected sector legal and institutional framework, as well as for tuning-up current regulatory framework, if necessary. Third, the main objective of the Subsidy Program for the Water Supply and Sewerage Industry would be to design a subsidy program for the State of Santa Catarina aimed at guarantying delivery of water supply and sewerage services to the poor. Besides the universal provision of water and sewerage services (i.e., water abstraction, treatment and distribution and sewage collection, treatment and effluent and sludge disposal), the study also aims to contribute to the achievement of positive health and environmental externalities, as well as to the redefinition of the State's social policy. Fourth, based upon the findings and recommendations from the other studies mentioned above, the Water and Wastewater Sector Planning Study for the State of Santa Catarina would develop a comprehensive and coherent framework for water policies formulation and related investment decisions comprising the definition of: (i) a strategy for the future development of the water and wastewater sector in the State of Santa Catarina; and (ii) a complementary investment plan to reach the goals and targets envisioned in the strategy.

The Water and Wastewater Sector Planning Study would also take into account the activities to be undertaken under the on-going Bank's Water Sector Modernization Project - PMSS II (Loan 4292-BR) to the Federal Government. These activities include: (i) an already signed technical assistance agreement with the Municipality of Jaragua do Sul to support the piloting of an alternative water model/company involving other municipalities in the water basin; (ii) an expected technical agreement with the State of Santa Catarina to operationalizing and strengthening SC/ARCO, the regulatory agency of the State created in January, 2000; and (iii) advisory services in the form of the provision of expert technical assistance upon demand to the State Government and other key State officials to support the sector restructuring program.

The CELESC Restructuring Review would encompass a desk review of the proposals and model endorsed by the Government in the recently approved law and would evaluate the proposed model based upon national and international best practice. A contingent is provided for more in-depth review of key areas including possible implementation issues. TORs are expected to be sent to the Bank by the second quarter of 2002, as the Government is planning to proceed immediately with the implementation of the new law. The study is expected to be completed during the first year of the project.

2. Rural Investment (US\$ 77.2 million; 72.3% of total project cost)

A Rural Investment Fund (RIF), operated under the same incentive legislation enacted to operate the LM II, would be the instrument to induce the adoption of the project strategy within the benefited microcatchment. As in its predecessor project, cost ceilings would be established per type of beneficiary, microcatchment and type of activity to be promoted. To compensate poorer peoples for the shock of macroeconomic adjustment measures and improve their livelihood, it would include social infrastructure matching grants for poorer rural communities, including small farmers, IP and rural laborers. It would also provide matching grants to individual target microcatchment dwellers individually or in groups to pilot new technologies and to adopt innovative schemes and production systems to enable small-scale producers to differentiate their products and aggregate value to take advantage of niche markets. It would also include a set of incentives to induce all farmers within benefiting microcatchment to address environmental conflicts with investments, which will either generate off-farm public goods or benefits that have long maturity periods. The grant would be the vehicle to partially share farmers' costs to comply with environmental legislation while at the same time achieving food safety and hence ensure niche markets. The project would also promote the adoption of "Terms of Adjustment of Conduct" to allow farmers to undertake compensatory measures and to make the necessary adjustments to comply with environmental regulations over a reasonable period of time. The fund contemplates three categories of grants: (i) those for home improvements, such as piped water, sanitation or waste disposal as well as minor structural improvements to housing (available only to poorer farmers, IP and rural laborers residing in the microcatchment); (ii) those used for conservation and environmental purposes, such as reforestation, protection of water sources or schemes to increase biodiversity (available to all beneficiaries but with differentiated contributions with preference to poorer farmers and IP); and (iii) those for income generation, whether through improvements to production systems, value-added schemes or job creation (available to poorer farmers, IP and rural laborers and to other farmers only when in association with at least 66% of the target population but with lower-cost share of grant contribution than those for poorer population).

Use of grants would be demand-led, and a consequence of the microcatchment development plans, individual plans and the participation of the municipal and regional decision-making bodies. Based on the information available on the microcatchment development plans prepared under the LM II and the 22 microcatchment development plans being prepared by EPAGRI, it is estimated that about 100,000 sub-projects would be supported under this component and that could include the following sub-project types within the three categories of grants mentioned above: (i) 15,000 rural homes would receive basic sanitation; (ii) 30,000 domestic water sources would be protected from contamination; (iii) 2,350 sub-projects would be funded either to increase the value-added of the agricultural products or to create off-farm earnings or employment opportunities, particularly to the priority target group; (iv) 50,000 families would be assisted to adopt improved land management practices, most of which would be from the target population; (v) 11,100 farmers would implement environmentally sound pig waste disposal; and (vi) 2,000 km of riparian gallery forest would be replanted. Communities could also use grants to repair or upgrade critical stretches of rural roads or undertake initiatives that would benefit groups of microcatchments or municipalities if identified to resolve critical local constraints. Road rehabilitation shall follow directives in the Road Rehabilitation manual to be financed under the project. It would also fund any group environmental protection schemes that members may demand--e.g., to replant trees for river bank protection. Grants supported under the Fund would be available to MAs to contract out services for the elaboration of microcatchment, individual and indigenous plans and for other technical and social assistance needed during implementation of those plans, in particular to target group members. Technical assistance costs would be supported on a declining share ratio over time, i.e., from 100% in the first project year to only 30% in the final year. Post-project, associations would be expected to pay the full cost of extension with either their own resources or using alternative financing schemes.

Grant applications would be assembled and evaluated initially by MAs. Those endorsed at this level would be consolidated at the municipal level and submitted to stakeholder decision-making bodies at the municipal level for approval, where grants of up to R\$5,000 (US\$2,000 equivalent) could be approved. Applications from R\$5,000 to

R\$50,000 (US\$2,000 – US\$20,000 equivalent) would be referred to stakeholder decision-making bodies at the regional level and those above R\$50,000 to the state level (above US\$20,000 equivalent). Disbursement would normally be against submitted receipts, although regulations would allow pre-financing of small amounts for the poorest applicants and issue of working capital. The component would be coordinated by a Fund Manager in the PMU, assisted by a grant administrator. Once awarded, grant funds would be transferred directly to beneficiaries. MAs and staff from the executing offices at municipal, regional and state level, as well as CCMs and CCRs--the latter two composed by representatives of project executors and beneficiaries--, would be responsible for monitoring the use of the grants as described in the monitoring section.

3. Environmental Management (US\$ 3.8 million; 3.5% of total project cost)

Under this component, the project would adopt a management strategy based on the successful experiences and results of the LM II Project, which demonstrated that: (i) improved land-use management practices meet water resource management objectives; (ii) land-use policies should be closely integrated with water management and overall natural resources and biodiversity conservation; (iii) upstream farmers, who arrested land degradation and supported rehabilitation activities, contributed to improved water quality and quantity downstream, and hence could and should be compensated for their efforts; and (iv) microwatershed commissions created under the project, although still imperfect organizations, are important grassroots forums that would facilitate their integration and participation into broader discussion forums at the river basin management level. This component would support the creation and development (or strengthening) of Watershed Committees, watershed plans, ecological corridors and protected areas, integrating natural resources management and conservation actions with those planned and implemented at the microcatchment level in three selected pilot watersheds (sub-basins)¹. It would also support Government efforts to "harmonize" existing laws and policies in the sector, including: (i) the establishment of a single coherent system of PAs that represent different scenery and natural features of the State; (ii) the provision of incentives to increase the municipalities' and private sector's roles in protecting important endangered ecosystems of the State; and (iii) the provision of information and means to achieve a commitment from municipal governments and the public at large to participate in the implementation of conservation management measures in compliance with the SEUC criteria.

Sub-component Support for Watershed Management (US\$2.3 million: 2.1% of total project cost)

This sub-component aims at integrating, on a pilot basis, project planning and management interventions at the watershed level with those to be undertaken at the microcatchment level. It would initiate the integration of national environmental and river basin management policies and laws, by piloting the preparation of river basin sub-catchment plans (or watershed plans) using project microcatchment plans as the building blocks. Plans would be prepared and their implementation would be started in the following three (out of 23 State watersheds) watersheds: Timbó Watershed (220,000 ha), the Chapecó Upper River Valley (530,000 ha) and the Jacutinga Watershed (100,000 ha). The selection of these pilot watersheds resulted from the overlapping of the following information and criteria:

- The potential for development of ecological corridors and the creation of new PAs, identified on the basis of the following criteria: (i) biological distinctiveness of forest remnants and other natural habitats; (ii) level of threat to biodiversity; and (iii) ecosystems poorly or not represented in the existing state system of parks and reserves (or areas without legal protection), but with important biological distinctiveness;
- Poor water quality conditions, particularly those resulting from inadequate management of hog waste and pesticides;
- Largest concentration of poor population, according to the Index of Social Development (IDS 2000)²; and
- Existence of an enabling local institutional environment conducive to the introduction of the proposed activities (e.g., where some sort of mobilization already exists to strengthen an existing or create a new Watershed Committee).

¹ For the purpose of this component, "watershed" and "sub-basin" are equivalent.

² Calculated based on the following parameters at municipal level: epidemiological profile, basic education and illiteracy rates, financial situation, internal growth rate, electricity, water supply and sanitation coverage.

With the above-mentioned objectives and geographical scope in mind, this sub-component would support the following activities:

Development of Integrated Watershed Management Plans (WMPs). The development of WMPs would take into account concepts of integrated resource planning, river basin management and microcatchment planning and involve the broad spectrum of watershed stakeholders. It would identify the critical ecological and water resources processes and propose solutions through collaborative land and water management and conservation activities. The achievement of objectives and milestones to be established under the WMPs would be supported by the implementation of individual microcatchment plans (prepared under project Component 1) and by sub-projects identified in the WMP covering more than one microcatchment within the watershed (i.e., either a selected group of adjacent microcatchments or the whole watershed). These sub-projects would include interventions to support watershed approaches to non-point source pollution, water quality permitting and monitoring, habitat protection and other water resource and restoration activities.

The formulation and further implementation of the WMPs would be fully integrated with the design and development of ecological corridors, supported under the **Ecological Corridors and PAs** sub-component below. To develop the WMPs, the project would finance technical assistance, studies and training of community and river basin committee promoters (including representatives from all relevant sectors and from MAs), participant workshops, minimum equipment and materials.

Funds would cover the costs of technical assistance, workshops and training for: (i) strengthening or creating Watershed (or Sub-basin) Committees; (ii) carrying out socioeconomic, environmental and stakeholder assessments based on Participatory Rapid Appraisal techniques (one PRA for each watershed); (iii) developing of more detailed assessment and characterization of aquatic resources, problems, their causes and sources (including land-based activities); (iv) goal setting (particularly water quality and allocation); (v) problem prioritization and resource targeting; (vi) establishment of water resources and environmental objectives consistent with legislation and reflecting the needs of watershed stakeholders; (vii) identification of financial and regulatory mechanisms to facilitate sustainability of water resources management; (viii) identification of M&E indicators to monitor the implementation of WMPs; (ix) identification of specific implementation actions that will attain the goals; and (x) setting of milestones, assignment of responsibility and identification of existing and potential sources of funding for implementation.

Initial Implementation of Integrated Watershed Management Plan. The project would support the initial implementation of priority actions identified in the three pilot WMPs. Though directly financing some strategic WMPs sub-projects itself, such as reforestation activities, control of non-point source pollution, water quality permitting and monitoring, habitat protection and restoration, the project would also act as a catalyst for other federal, state and/or municipal programs in support of sustainable watershed development. Sub-projects, which could be directly financed under the RIF (Component 2), would: (i) comprise sub-projects proposed by farmers or farmers' associations; and (ii) specific project sub-projects proposed by non-farmers' associations (NGOs, River Basin Committees, municipalities, etc.).

This sub-component would be implemented by the SDM's Natural Resources Department, through its Water Resource team, in close collaboration with SDA, FATMA, EPAGRI, the Watershed Committees, the State Environmental Police (CPPA) and other concerned local institutions. Coordination of the sub-component activities would be the overall responsibility of a seconded SDM/FATMA environmental specialist in the PMU. He/she would coordinate the work programs of senior environmentalists and subject matter specialists based in existing FATMA offices (central and regional), including consultants who would oversee and support interactions of local stakeholders, particularly municipal associations, municipal environmental and rural development councils, NGOs, microcatchment associations and river basin committees.

Sub-component Ecological Corridors and Protected Areas (US\$1.5million; 1.4% of total project cost)

Efforts to protect the richness of the Atlantic forest resources throughout the State of Santa Catarina have been significant but insufficient. Therefore, under this sub-component the project would support the State's priority efforts to establish ecological corridors and to strengthen existing PAs. This sub-component would support the creation of *ecological corridors* and PAs, would oversee the *publication and application of new state-level laws* and

regulations to establish and provide economic incentives for ecological corridors and PAs. In addition, one existing *State Park (Tabuleiro)* would be consolidated. It would support the following activities:

Design and Management of Ecological Corridors. The project would design ecological corridors in two out of the three pilot watersheds selected for project support under the previously described sub-component (Timbó Watershed and Chapecó Upper River Valley)¹. It would also promote the creation (or increase the size) of private and public PAs in these watersheds, provide incentives to increase connectivity of forest cover among them and create conditions for their sustainable management.

Landscape-level corridors would comprise a mosaic of land uses connecting PAs and fragments of natural forest across a landscape within the selected watersheds, which hold important Atlantic forest ecosystems. In productive agricultural landscapes, and through Components 1 and 2, the project would promote the land restoration through the adoption of improved agricultural practices that enhance soil biodiversity (non-till systems, legume crop rotation, mulching and other conservation agriculture practices).

At the design stage, to determine the suitable landscape spatial structures, the project would finance studies², surveys and mapping, adopting remote sensing, GIS and respective GIS-based spatial models. A public consultation process would also be initiated at this design stage, so as to raise conservation awareness and to involve local communities living inside and outside parks and reserves boundaries, by addressing their needs and promoting co-management.

The project would also support the initial implementation of the corridors. This would include: (i) establishment of a minimum corridor coordination and participatory management structure; (ii) implementation of an integrated geographical information system and information dissemination (8,000 folders, 3,000 CD-roms, etc.); (iii) training on private and municipal PAs management design (20 workshops or focus groups involving land owners and municipal officers, including municipal Attorney General staff); and (iv) implementation of sub-projects in PAs and interstice areas of the corridor.

Sub-project types would include interventions to promote sustainable management of natural resources and conservation by local communities and promotion of private natural reserves (RPPNs), mandatory legal reserves and permanent preservation areas on private lands, including training. The project would also act as a catalyst for other federal, state and/or municipal programs in support of sustainable watershed development. As in the Watershed Management sub-component, sub-projects which could be directly financed under the project would have one of the following sources of financing: (i) the RIF (Component 2), comprising sub-projects proposed by farmers or farmers' associations; and (ii) specific project funds allocated to finance sub-projects proposed by non-farmers' associations (NGOs, municipalities, etc.).

Support to regulation and dissemination of new state-level laws. The project would oversee the publication and application of two new state laws and regulations that would establish and provide economic incentives for the implementation of ecological corridors and PAs. The project would finance publications (15,000 folders, 3,000 CD-roms), homepage and media campaigns, 20 workshops and technical assistance for drafting the regulations for these two new laws and for the development of an inventory of existing private and public PAs. These new laws include the yet to be sanctioned "*Lei do ICMS Ecológico*" (that would allow VAT incentives for environmental protection) and the recently enacted law that establishes the SEUC.

Consolidation of the Tabuleiro State Park. The project-supported activities in this area would be a major baseline for the aforementioned GEF MSP Project. All project interventions in the Tabuleiro Park would also complement the institutional strengthening and Park infrastructure works planned under the KFW³-supported "*Pro-Mata Atlantica Project*."

¹ Criteria for prioritizing these two watersheds for the creation of corridors are presented above under the Watershed Management sub-component.

² Socioeconomic planning, corridor management studies and conservation biology studies would be undertaken in coordination with the diagnostic studies carried out under the Watershed Management sub-component (conservation biology studies would include a detailed analysis of existing data on the distribution of key species and of existing PAs, including indigenous territories).

³ KFW - German Service Enterprise for Development Cooperation.

The project interventions in the Park would include: (i) strengthening of existing Park visitors infrastructure (small works), including the construction of interpretative trails and two thematic centers in the buffer zone and equipment for these centers and for fire control; and (ii) expansion of training (in participatory Park management), environmental education and dissemination activities planned under the GEF project, by supporting: (a) the organization of 60 events (workshops, field trips, courses) involving 50 community leaders, 270 school teachers, 60 municipal and Park staff and other 220 local stakeholders; and (b) publications and other Park promotional materials (10,000 folders; 10,000 books; 5,000 posters; 6,000 agendas; 5,000 T-shirts; 8,000 post cards, etc).

In addition, through project Components 1 and 2, the project would consolidate sustainable resource management activities in the buffer zone, by promoting the replication of successful alternative livelihood activities (tested under the GEF project) to all microcatchments located in the Park buffer zone. Implementation responsibility for this sub-component would be given to FATMA in close collaboration with SDM, CPPA, SDA/EPAGRI, Municipal and State General Attorney Offices and the recently created State Attorney Thematic Office (*Ministério Público*), which deals exclusively with the Tabuleiro Park-related lawsuits and significantly contributes to the Park's implementation. Coordination of the sub-component activities would be the overall responsibility of a seconded SDM/FATMA environmental specialist in the PMU. He/she would coordinate the work programs of senior environmentalists and subject matter specialists based in existing FATMA offices (central and regional), including consultants who would oversee and support interactions of local stakeholders, particularly municipal associations, municipal environmental and rural development councils, NGOs, microcatchment associations and river basin committees.

4. Project Management, Monitoring and Evaluation (US\$8.0 million; 7.5% of total project cost)

Sub-component Project Management (US\$2.9 million; 2.7% of total project cost)

Project management and implementation would be the overall responsibility of the Santa Catarina's SDA supported by the SDM, FATMA, under SDM and EPAGRI and ICEPA, under SDA. For assisting IP communities, it will also be supported by FUNAI.

The project management structure would be decentralized with executive bodies at the state, regional, municipal and microcatchment levels. Building on the experience of the LM II, it has been designed to maximize participation and ownership of decision-making by the beneficiaries, combined with transfer of these responsibilities and project accountability to the lowest practicable administrative levels. These aims would be achieved by a pyramid of inter-linked "deliberative" bodies created in parallel to the executive ones, stretching from state level through 14 operating regions to Santa Catarina's 293 municipalities, the 880 project microcatchments and eventually down to the community level (see Figure 1 of Annex 12 on Project Management Structure). Where similar deliberative bodies already exist--at state and municipal levels--the project's specific deliberative bodies will be attached to them but with specific membership to ensure full representation of the target beneficiaries. To ensure that development is demand-led, at least 50% of the participants in project deliberative bodies at every level would be members of the target group or their representatives. Other members would span remaining stakeholders in the participatory process--NGOs, labor unions, co-operatives, private firms, government organizations involved in implementation and local political figures such as mayors.

The Government has set up a small PMU at state level attached to the office of the SDA. The PMU has small departments dealing with technical management, auditing, finance, procurement and administration, monitoring and evaluation and operation of the RIF. It is staffed with a core team of qualified professionals staffed mainly seconded from the partner executive organizations (EPAGRI, ICEPA and SDM/FATMA) with substantial experience implementing the LM II project. It is complemented with specialized consultants hired by ICEPA mainly in the areas of financial management, procurement and internal auditing. A social scientist attached to the PMU will assist and coordinate the implementation of indigenous activities under the project. In addition, EPAGRI's regional and municipal offices would serve as project executive units of the PMU that would also have small multi-institutional teams in each of the 14 EPAGRI regional offices. The function of the PMU and its executive partner organizations--notably EPAGRI and FATMA—is to support implementation of the collective decisions and programs of the deliberative bodies coming from the various levels. Thus the state, regional and municipal project executive units would also act as the executive arms for the stakeholder deliberative bodies responsible for participatory planning, decision-making and oversight of implementation at state, regional, municipal and microcatchment levels (see

Figure 2 in Annex 12).

Under this sub-component, the project would finance consultant costs and equipment for the establishment and functioning of the PMU in the SDA. It would also support a communications program to ensure that all relevant stakeholders (particularly the target poorest farmers and ethnic minorities) are adequately informed about the project's objectives, opportunities and procedures and able to provide feedback and participate in the process. An automated MIS will be developed under the project to enhance the existing MIS used under the LM II. It would automatically integrate physical, financial and accounting information under one system. It would be integrated with the monitoring system of project inputs and outputs (see details under M&E sub-component below). Through a special unit of qualified staff, the PMU will also manage the administrative and procurement functions of the project.

Sub-component Monitoring and Evaluation (US\$2.6 million; 2.4% of total project cost)

This sub-component would support project monitoring, evaluation and dissemination of project results and impacts. It would also include the development and implementation of an automated Management Information System - MIS (see Figure A at the end of this section).

This enhanced MIS would permit automatic tracking of the physical and financial execution of the project. The TORs for the design of the automated MIS and the cronogram for its implementation were agreed at negotiations and included in the PMU Institutional Strengthening Action Plan (See Appendix 1, Annex 6). To facilitate interface between the project, service providers and beneficiaries, the project would establish a web-based information system. In addition, given the decentralized nature of the project, the enhanced MIS would integrate the existing internal controls, records of project assets, procurement, accounting, auditing and incorporate means to reconcile the project's Special Account and would conform with the Bank's Financial Accounting, Reporting and Auditing Handbook (1995), the Bank's Operation Policy and Procedures 10.02 (July 1996) and revised financial management standards as in OP/BP 10.02 (August 1997). The system will also produce timely budgetary and expenditure information to the Bank and other stakeholders. Moreover, special attention would be given to design a performance-oriented and user friendly MIS. It would also include the following elements:

- Reporting from project staff (particularly extensionists) who would monitor implementation of productive, social and environmental improvements;
- Reports from beneficiaries, in particular MAs, CCMs, CCRs, CCE and pilot Watershed Committees (through the MA, beneficiaries would also report on progress on the microcatchment implementation plan);
- Recording of all planned and executed activities (physical, financial and procurement information), in accordance with the directives in the Operational Manual at all levels (state, regional, municipal and microcatchment);
- Financial Monitoring Reports (FMR) and reports from periodic audits and other relevant PMRs; and
- ICEPA and other partner and independent institutions that will undertake project impact evaluations.

Appendix 2 of this Annex provides the basis for establishing the parameters (inputs and outputs) needed to carry out **project monitoring**. Monitoring results would be inserted into the MIS, thus allowing a real-time tracking of microcatchment plans and related sub-projects being implemented on the ground.

Given that the Rural Investment component constitutes the bulk of project expenditures (US\$77.2 million), the monitoring of this component will be more detailed and intense. Based on output indicators listed in Appendix 2 of this Annex, the monitoring activities would track a number of features related to the implementation of sub-projects financed under this component: number and type of sub-projects (since the process is demand-driven) and which types are in more demand¹; type of beneficiary benefited under the RIF (i.e., marginal or transitional farmer, rural worker, IP); etc. Progress reports specific for the RIF would be available for the various features which may be deemed necessary, e.g. by geographical distribution (by state, region, municipality, microcatchment), land surface (of riparian forest replanted, conservation practices adopted, improved soil management practices), etc.

¹ There are three types of sub-projects possible under this component: environmental, home improvement and income generation grants.

In addition to physical/project-based and financial monitoring and related MIS, this sub-component would also support the continuous monitoring of socioeconomic and environmental aspects in **pilot microcatchments**. It would include monitoring of: (i) water quality and quantity (around 12 parameters to be measured systematically/fortnightly in 6 to 12 pilot microcatchments and groundwater sampling stations/wells); (ii) other environment-related indicators: vegetation cover, pesticide use reduction, soil-water content, adoption of agriculture conservation practices by farmers; (iii) socioeconomic aspects: effective participation and empowerment of communities in project-related decision-making process, farmers perception of environmental issues, improvement in family living conditions, financial and socioeconomic situation; and (iv) additional qualitative and quantitative parameters to compute the economic value of *external impacts* of natural resources management activities, such as the value of increased CO² stored, reduced sedimentation, reduced pesticide runoff and other environmental impacts on downstream users.

Project impact evaluations would complement the above-mentioned monitoring activities (which would allow the measurement of actual performance with expected performance) by measuring the effectiveness of actual performance (i.e. impact), hence providing feedback and helping improve the effectiveness of the project. Most of the indicators for impact evaluation are laid out in Annex 1, under Sector Indicators. These indicators imply a series of quantitative and qualitative parameters that would be applied to determine how closely the project has attained them.

This activity would include ex-ante (year 1), mid-term (year 3) and ex-post (year 6) evaluations. The structure of these evaluations will be based on parameters and indicators as defined in the project objectives (Annex 1), focusing on socioeconomic, environmental and policy aspects. The *ex-ante evaluation* will be based on information obtained in all production systems of the State (i.e., in the 1,683 microcatchments of the State) through a municipal census to be conducted during the first year of the project (and starting before project effectiveness). The results of ex-ante evaluation will also be used to select the 880 microcatchments to be benefited by the project. To that end, a few case studies or additional surveys may be deemed necessary to assess or complement the information provided by the census. Baseline information obtained during the early stage of project implementation (ex-ante evaluation) would be compared with progress at a mid-term review and at completion. The *mid-term evaluation* will be based on a two-stage field survey of project microcatchments within those already in operation by third year of implementation. It will be the first detailed review of progress and a prognosis of the likely effects of the project, and it is intended to identify project design problems and timely solutions. The *ex-post evaluation* will also be based on a second municipal census, and it will include a final assessment of the project's effects and their potential sustainability. As in the case of ex-ante, the mid-term and ex-post evaluations will also include specific case studies which may be deemed necessary to assess or complement the information provided by the corresponding survey and census. These studies may include, e.g., the assessment of project progress or effects on IPs, poorer farmers, natural resources, etc. The mid-term and ex-post evaluations will also consider the results from monitoring of pilot microcatchments to assess more specific socioeconomic and environmental impacts, including the aforementioned *external impacts* of natural resources management activities on downstream users (i.e., off-farm public goods benefits), so as to design appropriate compensation mechanisms.

Bank supervision missions would review project implementation at least every six months on the basis of approved annual operating plans and annual progress reports. The content of the progress reports were agreed at Appraisal and would build on the experiences of the LM II and those of similar projects in neighboring states.

The project's M&E system would use participatory mechanisms to enable stakeholders to share their feedback. The PMU's M&E Unit would be responsible for coordinating monitoring (see Annex 12 on Project Management), with EPAGRI and other executing agencies providing support and technical assistance as necessary. Key groups of stakeholders, particularly those small farmers living in the pilot microwatersheds, would also participate actively in data collection and other sampling activities to monitor social and environmental aspects of the project.

Dissemination of project findings. Dissemination and diffusion of project results and impacts would be implemented under this sub-component. Web-sites, media, newsletters, bulletins and workshops would stimulate continued participation of stakeholders, as well as ensure that lessons learned are shared and commented on by actual and potential beneficiaries at the local and state levels, nationally (through workshops, conferences, publications and a project homepage) and internationally (through the project's homepage, study tours and

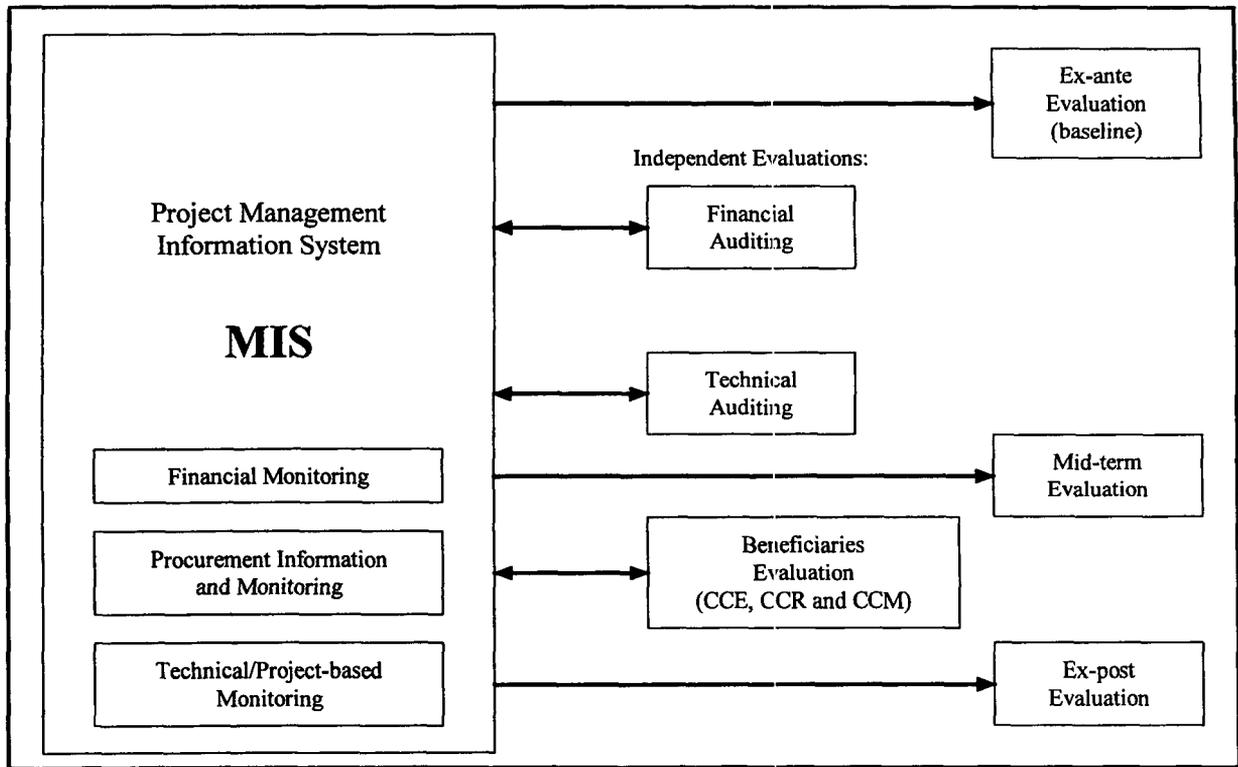
occasional exchange programs with other projects, particularly in Latin America and Africa). At the local level, the target audience for information dissemination would include 105,000 farmers' families and other key stakeholders in the 293 municipalities of the State. All project material to be disseminated would emphasize the importance of participatory planning and management for integrating environmental and social sustainability into strategies to alleviate rural poverty and improve rural livelihoods.

Sub-component Community Organization (US\$2.5 million; 2.4% of total project cost)

A sub-component for **community organization** would provide separate resources for the creation and operation of all categories of stakeholder bodies. Funding would be provided to support day-to-day operations and meetings of 880 MAs, 293 municipal-level deliberative bodies, 14 regional deliberative bodies and the state-level deliberative commission throughout the six-year disbursement period.

5. Front End Fee (US\$0.6 million; 0.6% of total project cost or 1% of Loan)

Figure a. Project Monitoring and Evaluation Structure



Annex 2, Appendix 1

Targeting

Following the successful experience of the LM II and of other similar projects being implemented in the southern states of Brazil, the project would use objective criteria applied at municipal, microcatchment and beneficiaries level to concentrate project efforts in consonance with project objectives. The target population consists of an estimated 105,000 small-scale and marginal farmers' families, rural workers and about 5,000 IP. This estimated population resides primarily in 880 microcatchments out of Santa Catarina's 1,683 (an estimated 3.6 million hectares). Among this population, the priority target group includes an estimated 80,000 poor rural families, i.e., 75 % of the families to be benefited under the project. It comprises rural poor within Santa Catarina, with per capita net farm income of less than two minimum wages, including those classified as "marginal" (with per capita net farm income of less than one minimum wage), "transitional type 1" (with per capita net farm income of less than two minimum wages) and IPs. The criteria to be applied at municipal and microcatchment level to direct project interventions to the priority target group combines social and environmental indicators. In contrast with the natural resources management and poverty reduction projects being implemented now in Rio Grande do Sul and in Paraná, which have different planning units for the natural resources and the poverty reduction components, the State strongly believes that the microcatchment and its residents considered together constitute the most effective planning unit to assist the poorer rural population in the State using the proposed project as the main instrument to implant the State's rural poverty reduction strategy. This policy builds on the LM II and the State's evaluation of the strong linkages between rural poverty and degraded natural resources.

The targeting criteria to select priority municipalities and then priority microcatchments within them would give:

- Sixty percent weight to a socioeconomic factor combining the percentage of the population in the marginal and transition income groups, percentage of IP and rural youth in the population and access to public services for health, education and sanitation. Within this combination, the concentration of marginal farmers would receive twice the priority weight of transitionals, and IP four times the weight.
- Forty percent weight to environmental factors as represented by water quality, density of the pig population, intensity of use of agrochemicals, remaining forest cover and the proportion of cropped land still under conventional tillage. Within this combination, the pig index would receive the highest weight, followed by agrochemical use and with forest cover and conventional tillage equaled in third.

The social data for calculation of targeting criteria at the municipal level are largely available, including classification under the Santa Catarina index of social development (IDS) that combines 17 parameters covering demographics, health, education, income, electricity consumption, water supply, sanitation and solid waste disposal. Environmental data would require separate collection, which would be done by field extension staff of the municipality or EPAGRI.

Disaggregated base data for individual microcatchments within municipalities is available as by-products of implementation of the LM II project, but need to be complemented and updated. Therefore, as part of the project design, before selection of priority microcatchments, each municipality, assisted by EPAGRI, would conduct a census, following a methodology already tested by EPAGRI in 50 municipalities. Consequently, the municipal census would be one of the first activities to be carried out under the project.

The application of criteria for targeting municipalities would result in three different priority categories/groups of municipalities:

- In the most needy third (Group 1), two-thirds of the microcatchments in the municipality would be eligible for project support.
- In the median group (Group 2), half the microcatchments would be eligible.
- In the least needy group (Group 3), only one third would be eligible.

Data for ranking of municipalities would be assembled by the PMU and submitted to the State Rural Development Council, CedeRural, for approval.

Once the municipalities have been assigned as a priority, the survey and application of Targeting Criteria for selection of microcatchments within municipalities would be the municipality's own responsibility. Surveys would be made by their own extensionists, with technical advice and assistance as necessary from local EPAGRI or regional PMU staff. On the basis of these findings, microcatchment targeting decisions would be made by existing Municipal Rural Development Councils (CMDR). Once microcatchment residents and communities have agreed to enter the project, an MA would be formed. Representatives of these M.As would then comprise the municipal-level deliberative Committee (CCM) that would be formed as a sectoral body (attached to the CMDR) for project implementation.

Within microcatchments, all residents would be encouraged to participate in the microcatchment development plans and local projects. However, the less poor farmers would only be able to participate in environmental sub-projects or in income generation sub-projects only when in association with at least 66% of the primary target population with lower cost share of grant contribution.

Annex 2, Appendix 2
Project Implementation Performance Indicators

Components and Activities	Responsible Institution	Unit	PY1	PY2	PY3	PY4	PY5	PY6	Total
Component 1: Institutional Development and Organization	<i>SEE</i>								
<i>Sub-comp. 1.1.: Training</i>									
<u>Output 1.1.1.:</u>									
-Stakeholders trained (total)		N.º	10,703	27,829	14,454	14,116	13,116	12116]	92,334
-Farmers trained		N.º	6,000	16,000	14,000	14,000	13,000	12,000	75,000
-Municipal leaders trained		N.º	3,650	11,000	-	-	-	-	14,650
-Technicians trained		N.º	773	570	338	-	-	-	1,681
-Local instructors trained		N.º	100	-	-	-	-	-	100
-Management staff trained		N.º	30	-	-	-	-	-	30
-Administrative staff		N.º	150	143	-	-	-	-	293
-Municipal Road machine operators		N.º	-	116	116	116	116	116	580
<i>Sub-component 1.2: Environmental Education</i>	<i>SEE</i>								
<u>Output 1.2.1.:</u>									
-Beneficiaries aware of/committed to		Nº	10,000	10,000	12,000	15,850	20,000	25,000	92,850
<u>Output 1.2.2.:</u>									
-Schools recruited		Nº	50	250	250	250	100	100	1,000
-Projects implemented		Nº	50	150	200	200	200	200	1,000
<i>Sub-Component 1.3: Rural Extension</i>	<i>EPAGRI</i>								
<u>Output 1.3.1.:</u>	<i>MA</i>								
-Technicians and extension agents trained and operating	<i>SDA</i>	Nº	773	330	-	-	-	-	1,103
-Operational Manual prepared	<i>SDM</i>	Nº	1	-	-	-	-	-	1
-Microcatchment Development Plan prepared	<i>SEE</i>	Nº	110	440	330	-	-	-	880
-Farm Development Plans prepared	<i>MA</i>	Nº	110	440	330	-	-	-	880
	<i>Facilitators</i>	Nº	9,000	35,000	26,000	-	-	-	70,000
<i>Sub-Comp. 1.4: Adaptive and Social Research</i>									
<u>Output 1.4.1.:</u>									
-Adaptive and social research carried out	<i>EPAGRI</i>	Nº	73	73	82	63	45	-	336
-Agricultural census of municipalities carried out	<i>Municipality</i>	Nº	250	-	-	-	-	-	250
<u>Output 1.4.2: Socio-environmental mapping</u>									
-Microcatchments mapped	<i>SEE</i>	Nº	290	290	300	-	-	-	880

Components and Activities	Responsible Institution	Unit	PY1	PY2	PY3	PY4	PY5	PY6	Total
Component 2: Rural Investment	<i>SEE</i>								
Output 2.1: Investments to support sustainability									
-Projects to increase value-added set up		N°	120	230	590	590	470	350	2,350
-Families with improved production systems		N°	2,000	4,000	10,000	10,000	8,000	6,000	40,000
-Homes improved		N°	750	1,500	3,750	3,750	3,000	2,250	15,000
-Families applying improved land management practices		N°	2,500	5,000	12,500	12,500	10,000	7,500	50,000
-Area covering management practices		Ha	12,500	25,000	62,500	62,500	50,000	37,500	250,000
-Families disposing of pig waste satisfactorily		N°	555	1,110	2,775	2,775	2,220	1,665	11,100
-Riparian gallery forest replanted		Km	100	200	500	500	400	300	2,000
-Families using protected water sources		N°	1,500	3,000	7,500	7,500	6,000	4,500	30,000
Component 3: Environmental Management	<i>SEE</i>								
<i>Sub-Component 3.1: Watershed Management</i>									
Output 3.1.1: Watershed management plans formulated	<i>SDM</i>	N°	-	1	-	1	-	1	3
<i>Sub-Component 3.2: Ecological Corridors and PAs</i>									
Output 3.2.1: Ecological corridors identified and in process of establishment	<i>FATMA</i>	N°	-	-	-	-	1	1	2
Output 3.2.2: PAs consolidated (Tabuleiro State Park)	<i>FATMA</i>	N°	-	-	-	-	-	1	1
Output 3.3.3: Norms for a SEUC released and ICMS created	<i>FATMA</i>	N°	-	-	2	-	-	-	2

Components and Activities	Responsible Institution	Unit	PY1	PY2	PY3	PY4	PY5	PY6	Total
Component 4: Project Management, M & E <i>Sub-Component 4.1: Project Management</i> <u>Output 4.1.1.: Project Management Structure Set Up</u> -PMU set up -Regional PMUs set up -Municipal PMUs set up -Facilitators available	SDA/SEE	N°	1	-	-	-	-	-	1
		N°	14	-	-	-	-	-	14
		N°	110	160	-	-	-	-	270
		N°	110	220	110	-	-	-	440
<i>Sub-Component 4.2: M&E</i> <u>Output 4.2.1: Project impacts monitored and evaluated</u> M&E System set up Ex-ante evaluation Mid-term evaluation Ex-post evaluation	SDA/SEE	N°	1	-	-	-	-	-	1
		N°	1	-	-	-	-	-	1
		N°	-	-	1	-	-	-	1
		N°	-	-	-	-	-	1	1
<i>Sub-Component 4.3: Community Organization</i> <u>Output 4.3.1.: Management institutions constituted</u> -CCE set up -CCR set up -CCM set up -MAs set up	SDA/SEE	N°	1	-	-	-	-	-	1
		N°	14	-	-	-	-	-	14
		N°	146	147	-	-	-	-	293
		N°	440	440	-	-	-	-	880

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Annex 3

Estimated Project Costs

	(Million US\$)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
A. Institutional Development and Organization					
Training	4.0	-	4.0	-	4
Environmental Education	1.0	-	1.0	-	1
Rural Extension	4.5	0.7	5.2	14	5
Adaptive & Social Research	4.1	-	4.1	-	4
TA for Structural Adjustment	1.4	-	1.4	-	1
Sub-tot Institutional Development and Organization	14.9	0.7	15.7	5	15
B. Rural Investment					
Social Sub-projects	6.8	0.8	7.5	10	7
Environmental Sub-projects	20.1	-	20.1	-	20
Economic Sub-projects	27.4	3.1	30.4	10	30
Technical Assistance	19.1	-	19.1	-	19
Sub-total Rural Investment	73.4	3.8	77.1	5	75
C. Environmental Management					
Watershed Management	2.0	-	2.0	1	2
Ecological Corridors & Protected Areas	1.3	-	1.3	2	1
Sub-total Environmental Management	3.3	-	3.3	2	3
D. Project Management, M&E					
Project Management	2.5	-	2.5	1	2
Monitoring and Evaluation	2.3	-	2.3	-	2
Community Organization	2.1	0.1	2.2	3	2
Sub-total Project Management, M&E	6.9	0.1	7.0	1	7
Total BASELINE COSTS	98.4	4.7	103.1	5	100
Physical Contingencies	1.3	0.0	1.3	7	1
Price Contingencies	2.4	0.1	2.5	4	2
Front-End Fee	-	0.6	0.6	100	1
Total PROJECT COSTS	102.1	5.4	107.5	5	103

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Annex 4

Economic Analysis

Since community-driven development mechanisms are going to be carried out under the new project, it is not possible to know *a priori* how project resources are going to be applied, and therefore an *ex-ante* estimation of their financial and economic rate of return and fiscal impact is not feasible. However, given that the proposed project is a follow-up to the LM II Project and builds on the experience gained in the neighboring states of Paraná, Sao Paulo and Rio Grande do Sul, some idea on the type of demand likely to be expressed by beneficiaries, and its corresponding costs and benefits, can be obtained. Ex-post estimates for the first project in SC (LM II) indicate that productivity of the main crops in the state--maize, wheat and soybeans--surpassed by 20 to 35% when compared to without-project productivity levels. Other non-quantified benefits obtained included less suspended solids, coliform bacteria and pesticide residues in runoff water streams, thus lowering silting and water treatment costs in downstream areas and reducing the incidence of water borne diseases and pesticides poisoning. Sub-projects to be funded under the proposed project would, in general, be similar to those financed under the prior projects. Therefore, the experience and results of a sample of completed schemes under those operations were examined, as internal economic rates of return (IERR) and other economic parameters for local schemes under the new project are likely not to differ greatly. The demand driven approach adopted, combined with strict criteria to assess the technical and economic viability of the proposals (agreed at Appraisal and incorporated into the Operational Manual) would ensure that the best development alternatives are chosen for financing. Moreover, MAs participation in identifying, preparing, financing and execution of investments would be a further assurance for sustainability of initiatives.

The following is a summary of the project economic, financial and fiscal analysis covering three regions of SC - West, Center/*Planalto* and the Coast/*Litoral* (for more detail, see project files). For the economic analysis, some of the off-farm benefits to be obtained were also considered in order to identify some of the public goods captured by others and the eventual need to compensate divergence between private and social interests. For example, although conservation agriculture may contribute to reducing global warming, it is less likely to be adopted by farmers if they do not directly capture the ensuing benefits. LM II demonstrated that the use of incentives as payments for environmental services helped to induce farmers' decisions to adopt conservation practices benefiting society at large.

Financial Analysis

Eleven farm models, five processing facility models and seven microcatchment-area models have been identified to represent some working hypothesis of likely beneficiary choices taken in response to the proposed project activities and incentives towards the adoption of conservation agricultural practices and PA investments. The expected adoption of conservation practices would reduce soil degradation, minimizing changes in soil composition and structure and maintaining organic soil cover. The quantifiable benefits at the farm level would include: (i) reduced on-farm costs (savings in time, labor and mechanization); and (ii) increased soil fertility, resulting in long-term yield increase, reduced yield variations and greater food security. These benefits stemming from better NRM are generally considered by farmers in deciding whether they will change their production practices.

Increased on-farm investments and expenditures related to the adoption of sustainable NRM practices might be highly profitable but also have to be attractive and adoptable for the limited investment capacity and resources available to the poor farmers. Specifically, most poor subsistence farmers have a time horizon that only goes to the next season because of pressing current needs, which helps to explain exploitative patterns of land use and some farmers' unwillingness, incapability or disinterest in investing in long-term resource conservation. Poor people often have no choice but to opt for immediate economic benefits at the expense of the long-term sustainability of their livelihoods. In most situations, farmers are reluctant to adopt conservation tillage, not because of lack of information, poor perceptions or traditional habits, but because future, long-term benefits are highly discounted.

The main assumptions for the financial analysis were: (i) discount rate: 12%; (ii) time horizon: 20 years; (iii) constant

third quarter 2001 labor, input and output prices; (iv) constant real exchange rate: R\$2,50 per US dollar; (v) 80% of investment costs (excluding labor) included in farm models, financed by the project incentives and/or micro-credit from other programs (PRONAF, State Rural Development Fund, State Forestry Program, NGOs, etc.). For the purpose of the financial analysis and its effect on the cash flow, constant payments including a 4-5% annual interest rate was considered when micro-credit was included, considering a grace period of one or two years.

Incremental costs considered in the financial analysis include: (i) on-farm expenditure for the adoption of improved NRM practices; (ii) investment and operating costs for the processing of agricultural products; (iii) environmental, social and economic prototype investments in representative microcatchments; (iv) technical assistance to farmers; and (v) indirect costs affecting beneficiaries. The analysis estimates individual or aggregate family income for farmers and communities adopting different soil conservation practices, which increase their own productivity and produce downstream benefits. The analysis further identifies and quantifies the need for matching grants as the funding vehicle to induce socially desired changes in production practices in the first years' required investments. Without incentives to cover part of these costs, changes would likely not be adopted, given the binding household budget constraint. The result of the financial analysis is summarized in Table 1.

Table 1: Financial Evaluation: Sample of Illustrative Farm Models

Type of Model (Main products)	On-farm Income (R\$)		N.P.V. (R\$)		FIRR (%)
	w/o project	With project	Before loans/ incentive	After loans/ incentives	After loans/ incentives
I. Western Region					
Maize & beans	1,254	1,900	5,790	7,000	35.6
Grains, milk & beef	4,320	8,940	22,800	24,940	> 50
Maize & pork	1,792	5,200	14,160	17,340	39.8
Beef & maize	5,734	9,810	16,280	18,700	34.9
II. Planalto Region					
Maize & beans	685	2,300	9,090	10,640	> 50
Beef & grains	4,039	9,800	20,270	23,000	32.4
Milk, beef & grains	4,820	9,700	15,450	18,180	30.4
III: Litoral Region					
Milk, maize & forest	1,480	5,967	19,590	22,120	45.0
Onion & maize	1,820	4,210	13,144	13,750	> 50
Cassava, grains & milk	1,480	5,080	18,140	20,260	> 50
Banana	4,500	13,230	35,590	37,785	> 50

These models with sizes ranging from 10 to 50 hectares of land--with pronounced slopes in the range of 20 to 45% -- permit to illustrate the likely effect of the project. The stimulus of sustainable production systems and improvements to the poor household economy based on conservative assumptions (progressive and limited expansion of herds or pace of changes, realistic yields and prices), taking into account the subsistence nature and risk minimizing strategy prevailing on the targeted population, is expected to have a significant impact on farmers' income improving the sustainability of farm resources. Labor requirements for the present and proposed production pattern and family availability and returns per family-day of labor were also considered in order to estimate income before family labor requirements. Investments considered in the proposed models generally implied the introduction of simple soil conservation techniques into the traditional cultivation practices and crops (maize, beans, cassava, onion, banana, etc.). Even though diversification towards higher value crops is a central part of the project's strategic approach, the available adapted production technology and the market limitations make it unrealistic to assume massive crop pattern and production changes in the short run. In some models, however, investments also implied moderate yield improvements and limited diversification into permanent crops such as banana, palm trees and/or forestry. Some 70% of the SC territory is naturally suited for reforestation or for perennial crops because of its steep relief. As in the first project, some farmers are expected to plant short cycle tree species such as Eucalyptus or pine because of their relative rapid economic returns, providing a new

source of income and mitigating the use of native forest to meet their needs within the farm.

Farmers' net income would increase under the project from 50% to more than 300%, depending on the farmers' initial conditions, farm size, cropping pattern and survival strategies. For the poorer farmers, i.e., those earning one minimum salary or less, on-farm activities promoted by the project, besides contributing to improved NRM, would generate significant production increases, mainly for self consumption. Farmers with off-farm oriented survival strategies would benefit less from on-farm earnings increases but would probably increase their family income through project-financed off-farm activities. Even farmers living in extreme poverty would benefit from project-improved NRM, food security and on-farm income increases as a result of adequate technical support and productive investment. The financial analysis confirms that: (i) the proposed investments are potentially attractive to smallholders; (ii) profitability varies according to the different regions and agro-ecological zones; and (iii) the marginal return to labor is higher than the opportunity labor wage rate of each region.

Economic Analysis

Improvement in environmental values (e.g., carbon sequestration, controlling the timing and volume of water flows, water quality or reduced soil erosion levels), together with the associated gains in on-farm productivity and production levels (e.g., job generation and poverty reduction) are some of the economic benefits envisaged independently of whom the beneficiaries are. For simplicity, however, the economic benefits estimated would be primarily associated with increased agricultural production and farmers income. Benefits from carbon sequestration are also estimated. Other non quantified benefits under the project include: (i) positive environmental externalities at the watershed level, including improved water quality, water availability, flood control, reduced sedimentation, biodiversity conservation, etc.; (ii) food security, nutrition and health as a result of increased and diversified production; (iii) effects of strengthened farmers' capacity and community organizations; (iv) promotion of revolving funds with the recovery of the financial resources used in on-farm productive investments; and (v) investments in social capital.

Besides the increases in production and income produced at the farmers' level, the IERR was estimated taking into account only one of the project externalities: the contribution to climate change mitigation through sequestration of carbon. Project activities enhancing carbon sequestration would include: reforestation, introduction of agroforestry systems and conservation agriculture that increases soil organic carbon. It is conservatively estimated that for each ha going into direct planting from traditional cultivation, an average of 0.5 to 1 ton of C per ha/year is trapped from the atmosphere. In the case of reforestation, trees are estimated to capture at least an average of 10 ton of carbon per ha per year. The results of the economic analysis are given in Table 2.

TABLE 2: Project Summary
ECONOMIC BUDGET (AGGREGATED)
(In R\$ Million)

	Without project	With Project							
	1 to 15	1	2	3	4	5	6	10	15
Main Production									
Annual crops	164.4	164.4	164.9	168.3	177.9	195.1	215.9	242.1	242.1
Perennial crops (fruits)	4.1	4.1	4.1	4.1	4.3	4.7	5.7	9.8	9.8
Forest products	-	-	-	-	-	-	0.1	3.3	10.5
Livestock products	102.8	102.8	103.8	110.0	129.2	166.8	218.7	340.3	341.8
Agro-industrial products	-	-	-	2.8	20.1	64.3	119.0	164.9	164.9
Swine-derived products	-	-	-	0.8	3.3	8.7	15.0	21.5	21.5
Dairy products	-	-	-	0.8	3.2	6.4	9.4	10.5	10.5
Conserved products (fruits, vegetables)	-	-	-	0.5	2.5	5.9	9.2	11.2	11.2
Indirect benefits (carbon sequestered)	-	-	-	0.1	0.4	1.2	2.9	11.9	15.3
Sub-total Main Production	271.4	271.4	272.9	287.5	340.8	453.1	595.9	815.4	827.6
On-Farm Use	-	-	0.2	1.7	5.4	10.8	15.8	20.9	20.9
Net Value Of Production	271.4	271.4	272.6	285.8	335.4	442.3	580.2	794.5	806.6
Production Cost									
On-farm Investment Costs	-	1.9	29.0	92.8	152.1	148.0	80.8	0.3	-
Operating									
Fertilizers	13.8	13.8	13.9	14.7	17.5	24.0	34.7	64.4	64.8
Annual crops	-	-	0.0	0.3	1.3	3.0	4.5	3.8	3.8
Perennial crops	-	-	-	0.0	0.2	0.4	0.7	0.8	0.8
Other costs	2.7	2.7	2.9	6.2	22.8	62.5	111.4	151.3	151.3
Forest products	-	-	-	0.0	0.0	0.1	0.1	0.1	0.1
Seeds and seedlings	9.1	9.1	9.2	9.7	11.3	13.7	16.3	21.2	21.3
Livestock products	-	-	-	1.5	6.9	19.4	37.8	75.3	75.5
Herbicides	9.6	9.6	9.6	9.4	8.9	8.4	8.5	9.1	9.1
Insecticides	9.3	9.3	9.3	9.4	9.4	9.0	8.2	7.2	7.2
Fungicides	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4
Machinery and equipment	6.7	6.7	6.7	7.1	8.1	10.3	14.1	25.9	26.1
Animal traction	5.3	5.3	5.3	5.5	5.8	6.4	7.1	8.5	8.6
Animal food and other inputs	11.8	11.8	12.1	14.0	19.2	27.5	35.6	43.6	43.7
Labor	96.8	96.8	97.1	98.4	101.4	104.7	107.1	114.3	114.5
Recruited labor (agro-industry)	-	-	0.0	0.4	2.5	7.2	12.9	17.5	17.5
Sub-Total Recruited Labor	96.8	96.8	97.1	98.9	103.9	112.0	120.0	131.8	132.0
Sub-total Operating Costs	165.1	165.1	166.3	176.8	215.4	296.8	398.9	543.4	544.6
Sub-Total Production Cost	165.1	167.1	195.3	269.6	367.4	444.9	479.7	543.8	544.6
Project Administration	-	15.0	10.0	10.0	10.0	10.0	5.0	-	-
OUTFLOWS	165.1	182.1	205.3	279.6	377.4	454.9	484.7	543.8	544.6
Cash Flow	106.2	89.3	67.3	6.2	-42.1	-12.5	95.4	250.8	262.1

IRR = 18.9%, NPV = 188.47

Economic return calculations included the cost of all project components: (i) incremental on-farm productive investment and recurrent expenditure for the adoption of sustainable agricultural production systems to be promoted; (ii) technical assistance to farmers; (iii) community development costs; and (iv) institutional strengthening and project administration costs. The estimate of benefits took into account incremental production and lower farm unit costs but not off-farm benefits except for the carbon sequestration issue explained above. Costs and benefits were adjusted to reflect opportunity costs, parity and/or shadow prices, while all transfers including taxes and subsidies would be excluded from the analysis. The overall evaluation has been undertaken by aggregating individual results weighted by their importance and relevance in the estimated project area.

The IERR has been estimated in 19%. This estimate is conservative, since it does not take into account the benefits accruing from reduced soil run-off and erosion. Furthermore, the analysis did not capture “without project” productivity losses (project benefits) due to declining soil fertility. Benefits derived from many PAs and income generating investments included in the costs were not calculated like in the case of housing and infrastructure improvements, sanitation and reduced contamination of domestic water sources, etc.

Fiscal Analysis

The major concern of resource for poor rural families is food security followed by improvement of their welfare by eliminating poverty. In contrast, socially optimum management of natural resources seeks to enhance the natural capital of the ecosystem in terms of carbon sequestration, reduction in greenhouse gas emissions, conservation of biodiversity and the improvement/conservation of water and soils quality. There are not many win-win situations in which both the welfare of the rural poor and the quality of the environment are enhanced. When from a small farmer’s viewpoint, alternative technologies merely break even or are difficult to be adopted because of financial restraints, but from a global perspective are highly beneficial, appropriate incentives are needed to persuade farmers to adopt these technologies. These incentives require the use of public resources, which will normally be compensated by incremental tax revenues and fiscal savings resulting from project activities.

Most of the project’s incremental production is subject to the ICMS 12% tax. Sales of goods and services and income tax revenues from incremental profits from on and off-farm production and service activities in the project area are also expected to be significant, as is the case of the strong export poultry/pig production chains where several taxes and income transfers to other sectors are evident. Maintenance costs of rural roads will also be reduced significantly by better erosion control falling by as much as 80% according to previous estimates. Furthermore, significant reduction in water turbidity in the project microcatchments will also reduce the need for aluminum sulphate to clean it up to standard levels needed for domestic supply. For simplicity, the fiscal analysis only considered the expected 12% ICMS value of the incremental production. According to the estimations, its present value--using 12% as discount rate--is equivalent to the present value of the foreseen fiscal project costs. Consequently, with the consideration of the other sources of fiscal benefits, it can be concluded that the project would also have a positive effect over the public accounts.

Conclusions

Poverty reduction is Brazil’s main development challenge and will require labor-intensive output growth, inclusion of the poor (specially IP and women) in the development process and more effective targeting of social services. Poverty is concentrated in rural areas where the sustainable management of watersheds is vital for their living conditions. The project will assist the Government of Santa Catarina to reduce poverty by improving management of natural resources. Employment and income generating opportunities will be created, decentralizing resource allocation and decision-making to small microcatchment community organizations, leveraging resources mobilized at the local levels and expanding stakeholders participation and social capital in rural areas. It should also result in benefits at the national and global levels which would not be captured by farmers but that are fairly significant: reduced downstream sedimentation, more regular river flows, reduced risks of flooding and contribution to reduce the threat of global warming. Examples of off-farm benefits include: reduced losses or costs related to controlled soil erosion and sediments depositions in downstream dams or irrigation structures; avoided property, production and life losses from periodical floods and landslides; costs reductions due to better health environmental conditions; or reduced O&M costs for downstream water uses (hydropower, recreation on rivers and reservoirs, municipal and industrial uses, etc.).

Sustainability of project benefits is expected to be high, given that the increase in physical assets will be complemented with improvements in social and human capital through training, the community participative approach for development and technical support components. About 30% of project resources are likely to be channeled to support community development activities and technical support to farmers and their organizations. Studies, development plans, works, training and support for management of revolving funds will promote participation and economies of scale on project interventions. As a result of project activities, production and new commercial activities including small businesses and enterprises are expected to develop, which would have a positive impact on local employment. The project will also promote private sector technical assistance and community development services to marginal communities, which are expected to increase the impact of project-financed on-farm investments.

The analysis confirms that the financial attractiveness of the proposed changes in the household production units is robust since these changes contribute to increase family incomes by more than 100% at investments maturity. However, since small farmers have survival needs that prevent them from undertaking the first year's required investments, it is necessary to offer incentives in order to cover some medium-term maturity conservation investments. Given that most poor farmers have daily pressures, the time horizons go only to the next season (the main reason explaining why the land is overexploited), some of them are either unwilling or incapable of investing and they are forced to settle with immediate benefits. From the farmers' viewpoint the project's proposed alternative technologies are out of their possibility to afford and some investment merely breaks even if only the private benefits are considered. Since from a national and global perspective they are clearly beneficial, appropriate incentives as the ones considered in the project are justified to persuade them to adopt these technologies.

Brazil
Santa Catarina
Natural Resources Management and Rural Poverty Reduction Project

Annex 5

Financial Summary
(in million US\$)

	Years Ending December 31						Total
	2002	2003	2004	2005	2006	2007	
Total PROJECT COSTS	13.1	16.1	18.3	21.9	20.7	17.4	107.5
Total Investment	11.5	15.0	17.1	20.8	19.6	16.2	100.2
Total Recurrent Costs	1.6 ¹	1.1	1.2	1.1	1.1	1.2	7.3
Financing Sources							
IBRD	7.4	10.2	10.6	13.2	11.8	9.6	62.8
GOSC	5.6	6.0	7.7	8.7	8.9	7.8	44.7
% of total project costs							
IBRD	59%	63%	58%	60%	57%	55%	59%
GOSC	41%	37%	42%	40%	43%	45%	41%

¹ Includes front-end fee

Brazil
Santa Catarina
Natural Resource Management and Rural Poverty Reduction Project

Annex 6

Procurement and Disbursement Arrangements

Procurement

A. General

All procurement of goods under the project will be carried out in accordance with the “Guidelines, Procurement under IBRD Loans and IDA Credits” dated January 1995 and revised in January and August 1996, September 1997, and January 1999, and the provisions stipulated in the Loan Agreement. Consultants will be employed in accordance with the Guidelines, Selection and Employment of Consultants by World Bank Borrowers, dated January 1997 and revised in September 1997 and January 1999, and the provisions stipulated in the Loan Agreement. The methods to be used for procurement are described below, and the estimated amounts for each method are summarized in Tables A and A.1. The threshold contract values for the use of each method are established in Table B.

B. Procurement Responsibilities and Capacity

Project administration and monitoring will be the responsibility of the Project Management Unit (PMU) established under SDA, which implemented the LM II and accumulated substantial experience in administrating Bank-financed projects. A procurement capacity assessment of the PMU/SDA and the other implementing agencies was conducted by the Project Team’s Procurement Accredited Staff and available in the project Files. The “Overall Procurement Risk” was assessed as “average”. Procurement responsibilities will be carried out mainly by the PMU, but other implementing agencies--mainly EPAGRI, SDA, SDM and FATMA--will also be responsible for the procurement of sundry items and the contracting of consultancy services under close coordination with the PMU. Also under close coordination of the PMU, beneficiaries will be responsible for the procurement of small goods, works and services to implement subprojects financed under the RIF. To that end, the PMU has hired a full-time Procurement Officer with experience with multilateral financed projects who will be assisted by three administrative staff. Also, implementing agencies have establish procurement units with experienced staff trained in Bank procedures and policies. PMU will also hire short-term consultants well versed in Bank procurement policies and procedures to complement PMU capacity and to assist implementing agencies and beneficiaries as needed. In addition, the staff from the PMU and from the procurement units of all implementing agencies are being trained in financial and procurement training as stipulated in the PMU Institutional Strengthening Action Plan (See Attachment 1 to this Annex). Procurement arrangements, responsibilities and standard bidding documents, as agreed between the Bank and the Federal Government, and to be used under the project, are part of the Operational Manual; the latter was presented to the Bank at Loan Negotiations.

C. Procurement Arrangements

The procurement packaging indicates that procurement of goods under the project will follow International Competitive Bidding (ICB) for vehicles, National Competitive Bidding (NCB) procedures for office information technology equipment and shopping for smaller sundry goods. For few small civil works, the project will follow the three quotation procedures. Matching grant under the RIF would abide by the procedures described below.

The Project will provide matching grants (US\$72.3 million) to legally constituted rural community associations to finance small-scale sub-projects, finance technical assistance and training for institutional strengthening. Due to its demand-driven characteristic and the fact that in most cases sub-grants will be a combination of works, goods, services, and operating costs, it is not possible to accurately break down this component at this point in small works, goods, consultancy services, and operating costs; the latter to be a maximum of 10% of economic subprojects. Procurement of

goods and works under sub-projects costing less than US\$50,000 each and implemented in remote areas will be carried out through shopping and direct contracting in the case of goods and three quotations, direct contracting and community participation in the case of works. To the extent possible, shopping and three quotations will be encouraged for goods and works, respectively. Also, to the extent possible, individual consultants will be selected by comparison of qualifications of three candidates and services by the comparison of three providers; however, on specific cases and to increase the utilization of local know-how, direct contracting methods will also be used. The norms to ensure a competitive process to be followed in the selection of individual consultants, services and the procurement of goods and works are included in the Operational Manual, copy of which was received at negotiations. This procurement procedure used also under the LM II for the grant component is appropriate because most sub-projects will: (a) be small and/or implemented in scattered or remote areas, and in a number of cases it would be difficult to obtain competitive proposals; (b) be managed directly by rural communities, who would also have a participative role in the execution of the works and in the provision of local materials; (c) be selected on the basis of willingness of the beneficiary communities to contribute to and physically supervise works execution; and (d) provide a vehicle for communities to play an active role in the local development process. A standard grant agreement acceptable to the Bank will be used to transfer grant funds to the beneficiaries under conditions that will ensure implementation in accordance to the Operational Manual. Standard formats for grant agreements are also included in the Operational Manual.

Procurement of Works (US\$0.22 million)

Works contracts (other than contracts under the grant component, costing less than US\$50,000 in scattered or remote areas) estimated to cost less than US\$100,000 equivalent, up to an aggregate amount of US\$0.22 million, will be procured under lump-sum, fixed price contracts awarded on the basis of quotations obtained from a minimum of three qualified local contractors in response to a written invitation. The invitation will include a detailed description of the works, including basic specifications, the required completion date, a basic form of agreement acceptable to the Bank and relevant drawings, where applicable. The award will be made to the contractor who offers the lowest price quotation for the required work, and who has the experience and resources to complete the contract successfully.

Procurement of Goods (US\$4.13 million)

Goods estimated to cost more than US\$350,000 per contract will be awarded on the basis of ICB acceptable to the Bank. Contracts estimated to cost more than US\$100,000 but less than US\$350,000 equivalent per contract will be awarded on the basis of NCB procedures acceptable to the Bank. The standard bidding documents for NCB and ICB agreed upon between the Bank and the Federal Government of Brazil will be used. These documents are part of the Project Operational Manual, received at Loan Negotiations.

Procurement of goods (other than contracts under the grant component, costing less than US\$50,000 in scattered or remote areas) estimated to cost less than US\$100,000 equivalent, up to an aggregate amount of US\$1.61 million, will be procured under shopping arrangements which will require price comparison from at least three qualified suppliers. All such goods will be procured at a reasonable prices, taking into account also other relevant factors such as time of delivery and efficiency and reliability of the goods and availability of maintenance facilities and spare parts.

Consultant Services (US\$18.62 million)

Firms

Contracts with firms will be awarded following a Quality and Cost Based Selection (QCBS) process, in accordance with Section II of the Consultant Guidelines. However, services estimated to cost less than US\$100,000 equivalent per contract for training, extension services, specialized studies and specific research, may be procured following Consultant's Qualification Selection procedures in accordance with provisions in paragraphs 3.1 and 3.7 of the Consultant Guidelines. Contracts for annual audits, other small contracts costing less than US\$100,000 per contract for small engineering design, traveling services, event logistics among others, would be contracted on the Bases of Least Cost Selection in accordance with the provision of paragraphs 3.1 and 3.6 of the Consultant Guidelines. In addition, services estimated to cost less than US\$100,000 equivalent per contract, may, with the Bank's prior agreement, be procured on the basis of Single Source Selection procedures in accordance with paragraphs 3.8 and 3.11 of the Consultant Guidelines, to a maximum of US\$1.0 million, including those contracts under IRC. The Financial Management System could, exceptionally, be contracted from an experienced Consultant firm with substantial Bank finance project experience.

The loan would finance contracts with consulting firms for, among others, studies, institutional strengthening, technical assistance, research, capacity building for the beneficiary communities, the PMU and the other implementing agencies, and study tours, training, and workshops. Services included under training incorporate travel, subsistence, and logistics to be procured using administrative procedures reviewed by the Bank and found to be acceptable. This procedures will be reflected in the Operational Manual.

Individuals

The consulting services required for the project include specialized advisory services, trainers and services to support project administration, monitoring, such as MIS experts, which are appropriate for individual consultants. Individual consultants will be selected by comparison of qualifications of three candidates and retained in accordance with the provisions of Paragraph 5.1 through 5.3 of the Consultant Guidelines.

Prior review thresholds and Procurement Supervision

The Bank's procurement review will be in accordance with Appendix I of the Guidelines for Procurement and the provisions stipulated in the Loan Agreement. The proposed thresholds for prior review are summarized in Table B. Prior review will be required for all ICB and for the first two NCB processes. In addition, the Bank will prior review the first three contracts procured through shopping procedures for goods and works, respectively. Contracts with consulting firms estimated to cost US\$100,000 or more, and with individual consultants estimated to cost US\$50,000 or more will be subject to the Bank's prior review. All other contracts will be subject to post-review. Assignments of a critical nature and amendments raising contract values above the said thresholds would also be subject to prior review.

Although the level of Bank prior review of procurement would be overall low, it will be compensated in several ways. First, reviews of procurement by community contracting will be carried out yearly during project implementation, under TORs agreed during project Appraisal and reflected in the Operational Manual. Second, cost comparisons of similar sub-projects will be conducted using the project's MIS in order to detect possible procurement problems and determine whether prices paid under community procurement were reasonable. Third, the project's annual physical performance evaluation will verify the physical implementation of sub-projects and analyze procurement issues. Finally, during Bank supervision, additional random reviews would be conducted of sub-projects, including field visits and review of sub-project documentation.

While there are procedures to prevent fraud and corruption under national laws, there is no law that enforces ethical performance of consultants to be hired to assist in project executions. The existing public servants' Code of Ethics be part of the material annexed to the Operational Manual together with the procurement material. Approval and dissemination of the Operational Manual will be condition for Loan Effectiveness.

D. Procurement Planning

The PMU will be responsible to prepare the Procurement Plan in conjunction with the executing agencies. A draft plan for the procurement of goods and hiring of consultants for the implementation of the project was prepared during Appraisal and revised procurement plan presented to the Bank and agreed at Loan Negotiations. However, given the demand-driven characteristic of the project, this plan may suffer changes as a result of the first stages of project implementation and hence it would be reviewed every six months. All implementing entities will maintain project records to systematically record all procurement transactions in the project. PMU will be responsible for consolidating the project procurement needs and to ensure that the implementing agencies perform their responsibilities efficiently and effectively.

Table A: Project Costs by Procurement Arrangements¹
(in US\$ million)

Expenditure Category	Method of Procurement			N.B.F ²	Total Cost (including contingencies)
	ICB	NCB	Other		
1. Civil Works ³			0.22 (0.18)		0.22 (0.18)
2. Goods and Materials ⁴	1.66 (1.25)	0.86 (0.55)	1.61 (1.01)		4.13 (2.9)
3. Consulting Services, Studies and Training ⁵			18.62		18.62
4. Grants ⁶			(10.75) 77.22 (48.46)		(10.75) 77.22 (48.46)
5. Recurrent Costs				6.71	6.71
6. Front-end Fee			0.6 (0.6)		0.6 (0.6)
Total	1.66 (1.25)	0.86 (0.55)	97.67 (61.00)	6.71 (---)	107.5 (62.80)

¹ Totals include taxes and contingencies.

² N.B.F. = Not Bank-financed.

³ Small civil works estimated to cost less than US\$100,000 would be procured under lump sum, fixed price

⁴ Vehicles, Equipment contracts estimated to cost less than US\$100,000 would be procured under price comparison

⁵ Consultancy Services estimated to cost less than US\$100,000 may be procured following Least Cost Selection procedures; where appropriate.

Single Source Selection may be used for contracts estimated to cost less than US\$100,000 where appropriate and with the Bank's prior agreement.

⁶ Rural Sub-projects to be procured through shopping, direct contracting and/or community participation. Goods and works are estimated at about US\$58.0 million

Table A.1: Consultant Selection Arrangements(in US\$ equivalent)
Method of Selection

	QCBS	CQ	LCS	Other	Total Cost
1. Training	4.22 (2.41)	0.30 (0.17)	0.90 (0.52)	0.30 (0.17)	5.72 (3.27)
2. Firms	7.49 (4.29)	1.87 (1.07)	0.88 (0.50)	1.16 (0.67)	11.40 (6.53)
3. Individual				1.23 (0.70)	1.23 (0.70)
Total	11.71 (6.7)	2.17 (1.24)	1.78 (1.02)	2.69 (1.54)	18.35 (10.50)

Note: QCBS = Quality and Cost Based Selection
CQ = Selection Based on Consultant's Qualifications
LCS = Least Cost Selection
Other = Selection of individual consultants (per Section V of Consultants' Guidelines), single source and others.

Table B: Thresholds for Procurement Methods and Prior Review¹

Expenditure Category	Contract Value Threshold (US\$)	Procurement Method	Contracts Subject to Prior Review
1. Works	≥ 100,000	NCB	2 first
	< 100,000	Three Quotations	3 first
2. Goods	≥ 350,000	ICB	All
	≥ 100,000 but < 350,000	NCB	2 first
	< 100,000	Shopping	3 first
3. Consulting Services:			
Firms	> 100,000	QCBS ¹	All
	≤ 100,000	QCBS/CQS/LCS	None
Individuals	> 50,000	Single Source ²	All
	< 50,000	Guidelines, Section V	All
		Guidelines, Section V	None
4. Grants	≤ 50,000	Shopping, Direct Contracting and/or community participation	None

² Other than under the matching grants financed under the RIF.

Financial Management, Auditing and Disbursement Arrangements

Country Issues

A Country Financial Assessment has recently been conducted for Brazil and a draft report has been prepared with the final report to be completed following a workshop that will include Bank and relevant government officials. The report presents findings that state that Brazil has sound financial management and accounting practices which allows for the transparent budget elaboration and its execution. The report provides adequate assurance that there are no major accounting or financial management accountability issues. There are no issues at country level which could negatively affect the use of funds.

Strengths and Weaknesses.

The PMU established within SDA will be responsible for project coordination and execution. The PMU has been organized and established based on the successful experience of the LM II project to respond to the workload required to implement the project activities. It has allocated experienced staff (a number of whom have previous financial and accounting experience implementing the LM II project). Hence, existing capacity (e.g. knowledge of Bank procedures, available experienced staff, basic accounting and financial control procedures) from the LM II project, and made available to the proposed project meets basic financial management standards as required in OP/BP 10.02 of August 1997. In addition, and given the decentralized nature of the project, the PMU will contract a specialized firm under agreed TOR to enhance and automate the existing system. The agreed implementation schedule (see Appendix 1 to this Annex) envisioned that the second FMR and onwards will be automatically generated by the automated financial management information system to be implemented under the project. A strong point for the establishment of the financial management system for the project is that the PMU is counting on very experienced managers who were responsible for the implementation of the LM II to set up all financial, monitoring and procurement systems for the proposed project, and its commitment to implement the agreed Institutional Strengthening Action Plan set forth in Appendix 1 of this Annex.

Implementing Entity and Staffing

SDA has created the PMU to be responsible for project coordination and execution. As stated above, the PMU incorporates experienced staff who managed the successful LM II project. This staff integrated also the Working Group in charge of project preparation. Their experience in financial management and disbursement acquired during the implementation of the LM II ensures familiarization with Bank procedures and capacity and experience to implement the proposed project and to implement the financial management system require to initiate the project and to prepare the agreed FMRs. However, there is a need to enhance and further automate the existing FMIS to better respond to the more decentralized nature of the project. (see Appendix 1 to this Annex)

Disbursement and Special Account Procedures

The PMU will prepare, on a transitional basis, FMRs from the existing financial system and ledgers, on the agreed format. The agreed Institutional Strengthening Action Plan (Appendix 1 to this Annex) ensures that the second FMR and onwards will be automatically generated by the automated financial management system to be put in place under the project. However, these FMRs will be mainly produced for project management purposes. Disbursements will be made on the basis of statements of expenditure (SOEs), except for contracts for goods above US\$350,000.00 or equivalent, for contract for works above US\$100,000 and equivalent, for contracts with consulting firms above US\$100,000.00 or equivalent and for contracts with individual consultants above US\$50,000.00. In those cases, full documentation has to be attached to the Summary Sheet (SS). The information required for the compilation of SOEs would be maintained by the PMU and executing agencies in the MIS data base. The SOEs will be submitted to the Bank as per cash flow requirements. In order to facilitate project implementation, the State of Santa Catarina Finance Secretariat will establish a special account in US Dollars in a commercial bank, with a maximum authorized allocation of US\$3.0 million, so as to initiate disbursements under the traditional disbursement methodology.

Accounting Policies and Procedures

The State of Santa Catarina, in the elaboration of its budget, is obliged to conform to Law 4320/64 governing the elaboration of public budgets. Consequently, the State budget is elaborated according to State law in the context of the multi-year budget and validated in accordance with the State Budgetary Guidelines Law (LDO) that highlight the State Government's priorities. The Secretary of Finance estimates revenue, elaborates the budgetary allocations for other State secretaries in order that planning at this level can be carried out. The Budget Directorate of the Secretary of Finance consolidates the budgets submitted by all State secretaries and this is inputted into the ORC—the State's financial and budget execution system. Once consolidated, the budget is sent to the State legislature for approval and subsequent approval by the Governor. Once approved, the next step is the detailing of expense tables that bring physical and financial data and detailed accounting codes. These tables will include the Project's components relevant to its financial control and execution. ORC is a system successfully used by the State. It integrates budget and budget execution permitting users to identify expenditures per program and source of funds. The system generates financial and accounting reports. The SDA has included in its institutional structure a Planning Directorate that is responsible for budget elaboration, a financial directorate that has an accounting department that consolidates expenditure statements. This Department has a financial manager who is also a qualified accountant. In addition, the budgetary process within the SDA is well defined and the budget for the Project in CY2002 was published in the State Budget Law, thereby guaranteeing counterpart funding for the project.

Reporting and Monitoring

The existing financial management system will generate FMRs, which format has been agreed. A comprehensive list of project indicators has been agreed and their physical monitoring has been designed as part of the project preparation. The components that will generate these indicators will also be included in the financial system as line items thereby permitting the project team to verify with cross-cutting data the Project's implementation progress. Once in place, the automated financial reporting system will also produce FMRs automatically which will contribute to speed up audit and accounting report submission while assuring accuracy.

Flow of Funds

The flow of funds of the RIF Category (Table D), which will account for just under 75% of the loan amount, builds on the successful experience of the LM II project and will be as follows. Beneficiaries will prepare subprojects and present them to the municipal, regional and state deliberative commissions as described in C.4 (Page 13) and Annex 12, which has to be compatible with microcatchment development plans approved by the MAs. If subproject is in line with the requirements then the project is approved by the deliberative bodies at municipal, regional or state level, depending on the size of the sub-project. The disbursement can occur in two ways : (i) the beneficiary can peasants pay in advance for the eligible expenditures, present the documentation to PMU - regional facilitator and get reimbursed, or (ii) the RIF can advance the funds in installments to the beneficiaries based on limits to be established in the Operational Manual depending on the type of the project and would be deposited into the beneficiary's bank account. The beneficiary's would submit the documentation on the expenditures and based on documentation of the first installment received and as they present the documentation they would receive the second and so on.

The RIF will pre finance the funds require for the project and it will be reimbursed out from the special account once they have prepared the SOEs and documentation containing the eligible expenditures. The existing RDF in the SDA is currently equipped with a financial management system developed under the LM II which is capable to monitor individually, by beneficiary, the funds advanced, its purpose and status of project implementation.

Accounting and Disbursement Arrangements: SDA through the PMU and the executing agencies, mainly EPAGRI, will be responsible for receiving the documentation and sending it to the PMU. EPAGRI staff at the municipal and regional level will validate the physical implementation of the work plan undertaken by the beneficiaries. The regional branches of EPAGRI will submit the docs to the PMU. The format of SOEs to disburse the funds under this category, is being design and it will be discussed at negotiations and be submitted to our Loan Department.

Internal Audit Arrangements: The implementation of the FIR will be monitored physically and financially by the Ma, the deliberative bodies and EPAGRI personnel allocated at the municipalities and regional branches of EPAGRI.

The flow of funds among all the executing agencies receiving project funds and making payments to the beneficiaries or suppliers was reviewed at appraisal. The PMU will be responsible to prepare the SOEs and request the replenishment of the Special Account. The enhanced FMS to be put in place under the project will further facilitate the flow of information (accounting, monitoring and procurement) among the executing agencies, the PMU and the deliberative bodies at State, regional and municipal levels (see also Annex 2 Component 4 Page 47).

Management Capacity of the Executing Agencies

The management capacity assessment is summarized in Table C, below.

Table C: Management Capacity of the Executing Agencies

Topic	EPAGI	SDM	FATMA	FDR	Sec. Finance
Organizational Structure	Good	Good	Under Review	Good	Good
Staffing	Good	Good	Need to allocate Staff	Good	Good
Information System	Good	Good	Good	Good	Good
Accounting Procedures	Good	Good	Good	Good	Good
Audit	Good	Good	Good	Good	Good
Financial Reporting	Good	Good	Good	Good	Good
SOEs Procedures	Good	Good	Good	Good	Good

FATMA needs to allocate additional staff to respond to the workload when the project becomes effective.

Information System

Based on the experience of the LM II project, SDA has in place a semi-automatic financial, monitoring and procurement system that allows the project to respond, on a transitional basis, to all project information needs. However, to better respond to the more decentralized nature of the project, SDA's financial management system will be enhanced and further automated to incorporate and integrate internal controls, records of project assets, accounting, procurement, auditing and means to automatically reconcile the project's Special Account to conform with the Bank's Financial Accounting, Reporting and Auditing Handbook (1995), the Bank's Operations Policy and Procedures 10.02 of July 1996 and revised financial management standards as in OP/BP 10.02 of August 1997. The PMU financial and technical staff would visit other states implementing similar projects-- like Paraná, Rio Grande do Sul, São Paulo--in Brazil so as to exchange implementation experience, and to assist them in developing the new system with the assistance of a qualified firm. There is a qualified firm based in Florianópolis which has designed and provided technical assistance to a number of other Bank financed projects, i.e. Paraná (natural resources management and poverty alleviation and education), and Rio Grande do Sul.

SDA was responsible for implementing ML II, which was successfully implemented, therefore it has the capacity to implement the proposed project. However, and taking into consideration that technology has substantially evolved in the later years since LM II was implemented, the SDA intends to strengthen the current capacity by putting in place a more advanced and sophisticated system during the first year of project implementation. TOR to contract a firm to develop such a system suitable for the conditions of the State was agreed and the timetable for its implementation is included in the PMU Institutional Strengthening Action Plan (See Appendix 1 to this Annex).

Auditing

Following arrangements for Bank-financed projects in Brazil, the annual financial audit of the project accounts for the period January 1 to December 31 of the year will be carried out by an Independent Auditor, acceptable to the Bank to perform auditing of Bank- financed projects. During project implementation, the State General Controller could fulfill such a role, after the Bank's assessment of its competence and capacity. SDA through the PMU will submit the annual

project financial audits to the Bank no later than June 30 in the year following the year for which the project accounts have been reported. The Auditor's draft TOR has been agreed and included in the Project File. It includes the issuance of a management letter on internal controls six months after effectiveness. The format of the project financial statements has been established. The format of the project financial statements has been established and agreed with State authorities.

Supervision Plan

A Bank supported financial management and procurement workshop for staff at PMU and of other implementing agencies took place early in project start-up. Supervision missions will be carried out at least twice a year. However during the first year of the project, it is envisioned that three full missions might be required. In addition, short stop-over missions would be also carried out to cover different subjects taking advantage of frequent missions to Brazil of task team members to work on other projects. In addition, procurement and financial management supervision may be provided through the CMU Implementation Team that is fully staffed to carry out these functions.

Table D: Allocation of Loan Proceeds by Project Category

Expenditure Category	Allocation of Loan Proceeds (US\$ million)	Financing Percentage
1. Civil Works (other than under Rural Subproject Grants)	0.16	73 %
2. Goods (e.g., vehicles and equipment, other than under Rural Subproject)	2.70	65 %
3. Rural Investment Fund (Rural Subproject Grants)	46.90	75% of expenditures of goods, works, services and operating costs under Rural subprojects
4. (a) Consulting Services, Studies and Training	10.40	56 %
(b) Audits	0.10	56 %
6. Fee	0.62	100% of amount due
7. Unallocated	1.91	
TOTAL	62.80	

Annex 6, Appendix 1

PMU Institutional Strengthening Program

Activities	How	When
1. Project Management		
a. Establishment of the PMU	Government Decree N°. 3954	January 30, 2002
b. Allocation of qualified and experienced Staff to the PMU (including financial, procurement and disbursement staff) for main posts.	Government Regulation N°. 221	March 5, 2002
c. Nomination of competent staff by implementing entities (SDA, SDM, FATMA and EPAGRI) to be designated to their respective project Procurement Units	Regulation by each SDA, EPAGRI, SDM and FATMA	March 2002
d. Contracting of Specialized Financial and Procurement Staff for the PMU	ICEPA to contract staff under TOR satisfactory to the Bank	March 2002
e. Contracting Specialized Staff to assist PMU with procurement activities during peak project activity.	ICEPA to contract staff under TOR satisfactory to the Bank	When and as required
2 Training		
a. Training of staff of EPAGRI, FATMA SDM, SDA, ICEPA, FDR, Procuradoria do Estado e Tribunal de Contas, on Bank financial, procurement policies and procedures.	Seminar with participation of Bank staff	March 6, 2002
b. Participation of technical and specialized staff on seminars on Bank financial and disbursement policies and procedures.	Seminars specially designed for the project with participation of the Bank	May 2002
c. Follow-up training of technical and specialized staff on Bank financial, procurement and disbursement policies and procedures.	Regional seminars offered by the Bank and/or SEAIN	When and as offered but at least two during first year of project and one thereafter
3 Financial Management System		
a. Revised Terms of Reference and proposed contract for the development of FMS.	Submitted to the Bank for "no objection"	April 2, 2002
b. Contracting the firm to develop the FMS (Including financial, physical and procurement planning and monitoring)	Based on qualification of the firm	One month after effectiveness
c. Initiate installation of the authorized improved accounting system	Contract signed and substantial work underway with at least accounting system completed	Four months after effectiveness
d. Full Implementation of FMS (including detailed monitoring of procurement procedures and production of FMRs)	With assistance of consulting firm contracted	Seven months after effectiveness
4 Planning		
a. Final Procurement Plan for the first two years of the Project	Procurement plan finalized and approved	March 26, 2002
c. Revised detailed Global Procurement plan	Global Procurement Plan revised and approved	Six months after effectiveness

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Annex 7

Project Processing Schedule

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	9 months	
First Bank mission (identification)	August 27, 2001	August 27, 2001
Appraisal mission departure	January 10, 2002	January 10, 2002
Negotiations	March 4, 2002	March 25, 2002
Planned Date of Effectiveness	July 28, 2002	

Prepared by: Secretariat for Rural Development and Agriculture of Santa Catarina

Preparation assistance:

Bank staff Team:

Name	Specialty
Graciela Lituma	Task Team Leader
Judith Lisansky	Social Scientist/Anthropologist
Chris Parel	Senior Country Officer
Carlos Velez	Lead Specialist - Water
Edward Bresnyan	Community Participation Specialist (Consultant)
Tulio Correa	Financial Specialist
Anemarie Proite	Procurement Specialist
Marta Molares-Halberg	Senior Counsel
Esme Jaya Abedin	Operations Analyst
Karen Ravenelle	Team Assistant

Peer Reviewers :

Daniel Gross	Lead Anthropologist (LCSES)
Nadim Khouri	Sr. Natural Res. Mgt. Spec. (LCSES)

FAO/CP Team consisting of the following Staff:

Name	Specialty
Katia Medeiros	Environmental Specialist
Ivo Marzall	Agronomist Consultant
Nestor Bragagnolo	Microcatchment Specialist Consultant
Alberto Costa	Rural Sociologist Consultant
Juan Morelli	Agricultural Economist Consultant

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Annex 8

Documents in the Project File*

A. Project Implementation Plan

- Draft Operational Manual (including Sub-projects/grants Operational Manual)
- Components Implementation Plan, Costs and Timetable (Costab)*

B. Bank Staff Assessments

- Social Assessment (available in Portuguese)*
- Indigenous Peoples Plan (available in Portuguese)*
- Working Papers*: Targeting; Training; Rural Extension and Technical Assistance; Adaptive Research; Environmental Education
- Government of Santa Catarina draft Project Concept Documents (available in Portuguese and dated August 2000, including draft problem tree and logframe, September 2001, November 2001, and February 2002). The latest version includes the following Annexes and Working Papers*: Anexo 1: Matriz Lógica Revisada (Project Design Summary); Anexo 3: Custos e Financiamento do Projeto; Anexo 4: Análise Financeira e Econômica do Projeto; Anexo 5: Focalização do Projeto; Anexo 6: Metodologia Participativa; Anexo 7: Educação Ambiental; Anexo 8: Extensão Rural; Anexo 9: Pesquisa e Estudos; Anexo 10: Inversões Rurais - Fundo de Desenvolvimento; Documento de Trabalho: Avaliação da experiência da Epagri com 700 empreendimentos assistidos (Estudo de caso); Documento de Trabalho: Experiência do Fundo de Desenvolvimento Rural (RIF); Anexo 11: Avaliação do Impacto Ambiental; Anexo 12: Administração do Projeto; Anexo 13: Monitoramento, Avaliação e Divulgação; Documento de Trabalho: Indicadores de Desempenho do Projeto; Anexo 14: Componente Gestão Ambiental; Anexo 15: Estratégia Populações Indígenas; Anexo 16: Avaliação Social
- Project Economic and Financial Analysis (Anexo 4: Análise Financeira e Econômica do Projeto" - Farmod).
- *Ajuste Fiscal* (provided by the Government)*
- NGOs proposals for the project
- Bank's Procurement Assessment
- Bank's Financial Management Assessment

C. Other (Background Studies)

Mid-Term Review and ICR of the Land Management II Project

*Including electronic files.

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Annex 9
Statement of Loans and Credits

Project ID	Project Name	FY	Original Amount in US\$ Mill.				Undisb.	Difference Between Expected and Actual Disbursements	
			IBRD	IDA	GRANT	Cancel.		Orig.	Frm Rev'd
P006559	(BF-R)SP.TSP	98	45.0				25.0	25.0	
P043873	AG TECH DEV.	97	60.0				34.1	32.9	19.9
P006562	BAHIA MUN.DV	97	100.0				54.1	54.1	3.4
P035728	BAHIA WTR RESOURCES	98	51.0				29.9	27.2	8.4
P006564	BELO H M.TSP	95	99.0				18.1	18.1	
P037828	BR (PR)R.POVERTY	96	175.0				84.5	82.7	58.7
P058129	BR EMER. FIRE PREVENTION (ERL)	99	15.0				9.2	9.2	9.2
P047309	BR ENERGY EFFICIENCY (GEF)	00			15.0		11.7	2.6	
P073294	BR Fiscal & Fin. Mgmt. TAL	01	8.9				8.8	2.3	
P006474	BR LAND MGT 3 (SAO PAULO)	98	55.0				52.7	35.3	21.7
P057910	BR PENSION REFORM LIL	98	5.0				3.1	3.1	(0.5)
P006541	BR WTR Q/PLN(SP/PR/FED)	93	245.0				5.2	4.2	2.7
P054120	BR- AIDS & STD Control II	99	165.0				3.5	49.1	45.1
P043874	BR- DISEASE SURVEILLANCE - VIGISUS	99	100.0					61.9	61.9
P050763	BR- Fundescola 2	99	202.0					53.3	(21.7)
P006554	BR- HEALTH SECTOR REFORM - REFORSUS	96	300.0					110.9	110.9
P006543	BR- MINAS GERAIS BASIC EDU.	94	150.0					3.7	3.7
P038947	BR- SC. & TECH 3	98	155.0					123.6	123.6
P059565	BR- BA BASIC EDU PROJECT (PHASE I)	01	69.6					40.7	(10.2)
P059566	BR- CEARA BASIC EDUCATION	01	90.0					88.2	(1.8)
P057665	BR-FAMILY HEALTH EXTENSION PROJECT	02	68.0					68.0	
P048357	BRAZIL CEN.BANK TAL	98	20.0					-	(7.3)
P046052	CEARA WATER PILOT (SIM)	97	9.6					2.2	1.4
P006449	CEARA WTR MGT (PROGERIRH) (SIM)	01	136.0					125.0	44.4
P006436	Ceara Urban Development & Water Resource	95	140.0					21.3	12.3
P039200	ENERGY EFFICIENCY (ELETROBRAS)	00	43.4					42.7	11.3
P006522	ESP.SANTO WATER	94	154.0					54.0	6.7
P006532	FED HWY DECENTR	97	300.0					156.7	42.9
P038895	FED.WTR MGT	98	198.0					125.7	58.7
P060221	FORTALEZA METROPOLITAN TRANSPORT	02	85.0					87.9	
P006210	GEF BR-NAT'L BIODIVERSITY	96			10.0			3.2	5.1
P055954	GOIÁS STATE HIGHWAY MANAGEMENT	02	65.0					64.3	3.4
P062619	INSS REF LIL	00	5.0					1.3	(0.7)
P006475	LAND RFM PILOT (SIM)	97	90.0					23.8	23.8
P050772	LAND-BASED POVERTY ALLEVIATION I (SIM)	01	202.1					180.9	23.0
P051701	MARANHAO R.POVERTY	98	80.0					10.4	(1.2)
P006505	MATO GROSSO NAT RES	92	205.0					15.0	27.1
P035741	NATL ENV 2	00	15.0					13.4	6.4
P050776	NE Microfinance Development	00	50.0					40.4	(9.6)
P042565	PARAIBA R.POVERTY	98	60.0					28.9	17.1
P039199	PROSANEAR 2	00	30.3					29.6	(0.7)
P038896	R.POVERTY(RGN)	97	24.0					0.6	0.6
P040028	RAILWAYS RESTRUCTURG	96	350.0					75.0	17.9

P038882	RECIFE M.TSP	95	102.0			19.0	19.0		
P034578	RGS HWY MGT	97	70.0			53.6	50.6	37.6	
P043868	RGS LAND MGT/POVERTY	97	100.0			60.4	42.6	16.5	
P043421	RJ M.TRANSIT PRJ.	98	186.0		17.2	142.9	160.1		
P006454	RONDONIA NTRL RES. M	92	167.0		10.0	10.8	20.8		
P050881	RURAL POVERTY REDUCTION PROJECT - PI	01	22.5			22.5	6.0		
P057649	Rural Poverty Reduction Project - BA	01	54.3			51.3	6.3		
P050875	Rural Poverty Reduction Project - CE	01	37.5			34.6	4.7		
P050880	Rural Poverty Reduction Project - PE	01	30.1			28.9	0.8		
P048869	SALVADOR URBAN TRANS	99	150.0			107.7	70.2		
P074085	Sergipe Rural Poverty Reduction	02	20.8			20.8			
P051696	SÃO PAULO METRO LINE 4 PROJECT	02	209.0			209.0			
P073192	TA Financial Sector	02	14.5			14.5			
P043420	WATER S.MOD.2	98	150.0			147.0	139.4	120.1	
	Total		5,734.7		25.0	179.8	2,859.2	1,740.3	441.1

Brazil
Statement of IFC's
Held and Disbursed Portfolio
As of January 31, 2002
(In US Dollars Millions)

FY Approval	Company	Held				Disbursed			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
2001	AG Concession	0.00	15.00	15.00	0.00	0.00	0.00	0.00	0.00
1996/97	Algar Telecom	0.00	8.17	0.00	0.00	0.00	8.17	0.00	0.00
2001	Apolo	8.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00
1998	Arteb	20.00	7.00	0.00	18.33	20.00	7.00	0.00	18.33
1999	AutoBAN	35.00	0.00	0.00	31.00	29.22	0.00	0.00	25.88
1993	BACELL	4.90	15.70	0.00	5.40	4.90	15.70	0.00	5.40
1990/91/92	Bahia Sul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	Banco Bradesco	10.48	0.00	0.00	11.18	10.48	0.00	0.00	11.18
2000	BBA	40.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
1997	Bompreco	16.67	0.00	5.00	0.00	16.67	0.00	5.00	0.00
1991	Bradesco-Eucatex	2.50	0.00	0.00	0.00	2.50	0.00	0.00	0.00
1995	Bradesco-Hering	7.50	0.00	0.00	0.00	7.50	0.00	0.00	0.00
1991	Bradesco-Petrofl	7.50	0.00	0.00	0.00	7.50	0.00	0.00	0.00
1991	Bradesco-Romi	0.00	0.40	0.00	0.00	0.00	0.40	0.00	0.00
1995	Brahma - BRA	7.50	0.00	5.00	0.00	7.50	0.00	5.00	0.00
1998	BSC	9.88	0.00	0.00	5.29	9.88	0.00	0.00	5.29
1993/96	BUNGE/CEVAL	0.00	8.06	0.00	0.00	0.00	8.06	0.00	0.00
1995	Cambuhy/MC	7.50	0.00	0.00	0.00	7.50	0.00	0.00	0.00
1994/96	CHAPECO	15.00	6.41	0.00	5.00	15.00	6.41	0.00	5.00
1973/78/83	CODEMIN	0.00	0.40	0.00	0.00	0.00	0.40	0.00	0.00
1997	Copesul	25.00	0.00	0.00	102.86	25.00	0.00	0.00	102.86
1993/97/00	Coteminas	0.00	0.53	0.00	0.00	0.00	0.53	0.00	0.00
1992	CRP-Caderi	0.00	0.68	0.00	0.00	0.00	0.68	0.00	0.00
1980/92	DENPASA	0.00	0.12	0.00	0.00	0.00	0.12	0.00	0.00
1995/96/98/02	Distel Holding	0.00	4.19	0.00	0.00	0.00	4.19	0.00	0.00
1998	Dixie Toga	0.00	15.00	0.00	0.00	0.00	15.00	0.00	0.00
1987/96/97	Duratex	16.57	0.00	0.00	40.71	16.57	0.00	0.00	40.71
1999	Eliane	32.00	0.00	13.00	0.00	32.00	0.00	13.00	0.00
1998	Empesca	5.00	0.00	10.00	0.00	5.00	0.00	10.00	0.00
2001/02	Escola	0.00	0.28	0.00	0.00	0.00	0.25	0.00	0.00
2000	Fleury	9.00	0.00	6.00	0.00	6.00	0.00	6.00	0.00
1998	Fosfertil	20.00	0.00	0.00	37.50	20.00	0.00	0.00	37.50
1998	Fras-le	10.00	0.00	10.00	0.00	10.00	0.00	6.70	0.00
1994	GAVEA	6.25	0.00	5.50	0.00	6.25	0.00	5.50	0.00
1994	GP Capital	0.00	9.67	0.00	0.00	0.00	9.35	0.00	0.00
2001	GPC	9.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00
1997	Guilman-Amorim	25.78	0.00	0.00	57.47	25.78	0.00	0.00	57.47
1998	Icatu Equity	0.00	20.00	0.00	0.00	0.00	12.14	0.00	0.00
1999	Innova SA	20.00	5.00	0.00	60.00	20.00	5.00	0.00	60.00
1980/87/97	Ipiranga	29.33	0.00	0.00	57.27	29.33	0.00	0.00	57.27
1999	Itaberaba	0.00	5.34	0.00	0.00	0.00	5.34	0.00	0.00

1999	JOSAPAR	8.00	0.00	7.00	0.00	3.00	0.00	7.00	0.00
1995	LATASA - Brazil	1.33	0.00	5.00	0.00	1.33	0.00	5.00	0.00
1995	Lojas Americana	14.00	0.00	5.00	2.00	14.00	0.00	5.00	2.00
2000	Macedo Nordeste	6.33	0.00	5.00	0.00	6.33	0.00	5.00	0.00
1996	Mallory	4.36	0.00	0.00	0.00	4.36	0.00	0.00	0.00
1987/92/96/99	MBR	20.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
1975/96	Oxiteno NE	10.00	5.00	0.00	0.00	10.00	0.00	0.00	0.00
1994	Para Pigmentos	21.50	0.00	9.00	12.32	21.50	0.00	9.00	12.32
1987/96	Perdigao	15.31	0.00	0.00	2.00	15.31	0.00	0.00	2.00
1989/95	Politeno Ind.	5.85	0.00	0.00	0.00	5.85	0.00	0.00	0.00
1994/00/02	Portobello	0.00	1.15	0.00	0.00	0.00	1.15	0.00	0.00
2000	Puras	4.67	0.00	0.00	0.00	4.67	0.00	0.00	0.00
1998	Randon	6.53	0.00	3.00	0.00	6.53	0.00	3.00	0.00
1995	Rhodiaco/PTA	7.50	0.00	0.00	3.00	7.50	0.00	0.00	3.00
1991	Rhodia-Ster	0.00	5.95	0.00	0.00	0.00	5.95	0.00	0.00
1990	Ripasa	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00
1997	Rodovia	27.22	0.00	0.00	47.70	27.22	0.00	0.00	47.70
1994/96	S.A.I.C.C.	0.00	2.85	0.00	0.00	0.00	2.85	0.00	0.00
1994/95/97	Sadia	20.50	0.00	6.83	109.33	20.50	0.00	6.83	109.33
1997	Samarco	11.70	0.00	0.00	6.67	11.70	0.00	0.00	6.67
2000	Samaritano	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	Saraiva	10.38	3.00	0.00	0.00	10.38	3.00	0.00	0.00
2000	Seara Alimentos	0.00	3.88	0.00	0.00	0.00	3.88	0.00	0.00
2001	Sepetiba	32.00	0.00	0.00	8.00	17.00	0.00	0.00	8.00
1987/97	SP Alpargatas	16.67	0.00	5.00	0.00	16.67	0.00	5.00	0.00
1997	Sucorrigo	7.50	0.00	0.00	0.00	7.50	0.00	0.00	0.00
2001	Synteko	18.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
1998	Tecon Rio Grande	6.65	0.00	5.50	14.84	6.65	0.00	5.50	14.84
2001	Tecon Salvador	3.50	1.00	0.00	5.00	3.50	0.77	0.00	5.00
1996	TIGRE	13.46	0.00	5.00	6.41	13.46	0.00	5.00	6.41
1992/93	TRIKEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1993	Votorantim	1.43	0.00	0.00	0.00	1.43	0.00	0.00	0.00
1999	Vulcabras	16.68	0.00	0.00	0.00	16.68	0.00	0.00	0.00
1997	Wembley	0.00	10.00	0.00	0.00	0.00	10.00	0.00	0.00
1999	Wiest	0.00	0.00	8.00	0.00	0.00	0.00	8.00	0.00
Total Portfolio:		731.43	159.78	133.83	649.28	657.65	131.34	115.53	644.16

Approvals Pending Commitment

		Loan	Equity	Quasi	Partic
2002	Banco Itau	-	-	-	100,000
2000	BBA	10,000	-	-	50,000
2001	Brad Templeton	-	20,000	-	-
2001	Cataguazes	45,000	-	-	40,000
1999	Cibrasec	-	7,500	-	-
2001	Satipel	15,000	-	15,000	-
2002	Unibanco-CL	-	-	-	150,000
2001	Unisul	15,000	-	-	-
2002	Univali	10,000	-	-	-
Total Pending Commitment:		95,000	27,500	15,000	340,000

Brazil

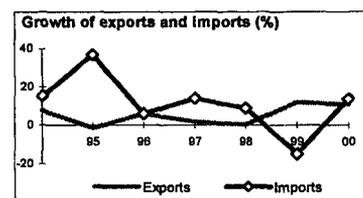
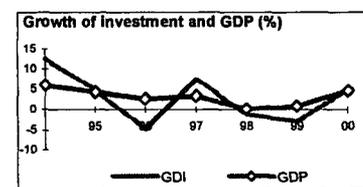
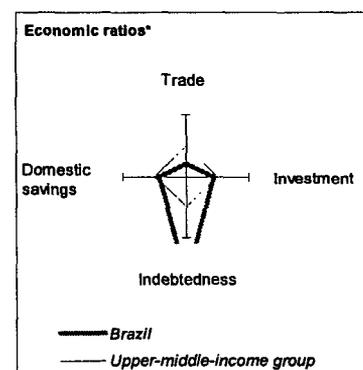
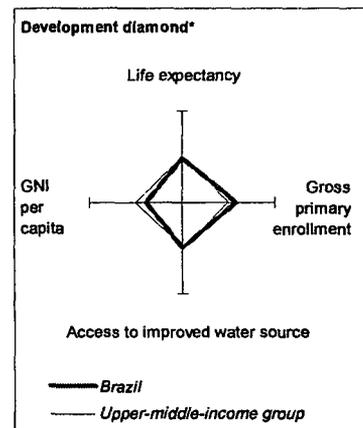
Natural Resources Management and Rural Poverty Reduction Project - Santa Catarina

Annex 10 Country at a Glance

Brazil at a glance

9/17/01

	Brazil	Latin America & Carib.	Upper-middle-income		
POVERTY and SOCIAL					
2000					
Population, mid-year (millions)	170.1	516	647		
GNI per capita (Atlas method, US\$)	3,590	3,680	4,620		
GNI (Atlas method, US\$ billions)	610.1	1,895	2,988		
Average annual growth, 1994-00					
Population (%)	1.3	1.6	1.3		
Labor force (%)	1.9	2.3	2.0		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	22	..	..
Urban population (% of total population)	81	75	78		
Life expectancy at birth (years)	67	70	69		
Infant mortality (per 1,000 live births)	32	30	28		
Child malnutrition (% of children under 5)	6	9	..		
Access to an improved water source (% of population)	87	85	87		
Illiteracy (% of population age 15+)	15	12	10		
Gross primary enrollment (% of school-age population)	125	113	107		
Male	..	..	106	
Female	..	..	105	
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	235.0	465.0	529.4	595.5	
Gross domestic investment/GDP	23.3	20.2	20.4	20.5	
Exports of goods and services/GDP	9.1	8.2	10.6	10.9	
Gross domestic savings/GDP	21.1	21.4	19.3	19.3	
Gross national savings/GDP	17.8	18.9	16.1	..	
Current account balance/GDP	-5.5	-0.8	-4.8	-4.1	
Interest payments/GDP	2.7	0.4	2.5	2.5	
Total debt/GDP	30.4	25.8	45.6	39.7	
Total debt service/exports	63.4	22.5	112.3	77.9	
Present value of debt/GDP	..	..	45.9	..
Present value of debt/exports	..	..	403.7	..
	1980-90	1990-00	1999	2000	2000-04
<i>(average annual growth)</i>					
GDP	2.7	2.9	0.8	4.5	3.8
GDP per capita	0.8	1.5	-0.5	3.2	2.3
Exports of goods and services	7.5	5.5	12.0	11.0	13.0
STRUCTURE of the ECONOMY					
	1980	1990	1999	2000	
<i>(% of GDP)</i>					
Agriculture	11.0	8.1	7.2	7.4	
Industry	43.8	38.7	27.5	28.6	
Manufacturing	33.5	..	23.1	24.0	
Services	45.2	53.2	65.3	64.0	
Private consumption	69.7	59.3	61.8	62.5	
General government consumption	9.2	19.3	18.9	18.2	
Imports of goods and services	11.3	7.0	11.7	12.1	
	1980-90	1990-00	1999	2000	
<i>(average annual growth)</i>					
Agriculture	2.8	3.2	7.4	3.0	
Industry	2.0	2.6	-1.6	5.0	
Manufacturing	1.6	2.1	-0.7	..	
Services	3.3	3.0	1.3	3.9	
Private consumption	1.2	5.7	6.1	9.9	
General government consumption	7.3	-1.7	-9.3	-5.4	
Gross domestic investment	3.3	3.4	-3.0	5.0	
Imports of goods and services	0.5	11.9	-14.8	13.8	

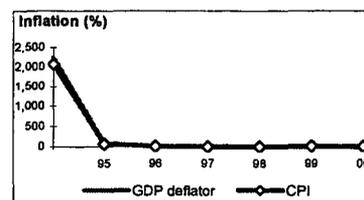


Note: 2000 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

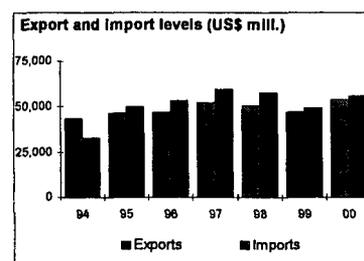
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices				
<i>(% change)</i>				
Consumer prices	..	2,947.7	8.9	6.0
Implicit GDP deflator	87.3	2,509.5	4.3	8.5
Government finance				
<i>(% of GDP, includes current grants)</i>				
Current revenue	19.5	20.0
Current budget balance	0.4	1.0
Overall surplus/deficit	-6.8	-3.2



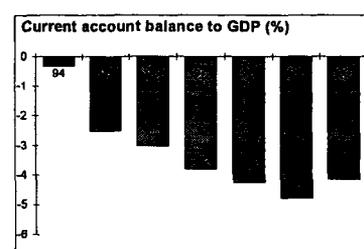
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	31,414	47,140	53,589
Coffee	..	2,656	2,746	3,048
Soybeans	..	2,854	1,593	2,188
Manufactures	..	19,624	35,312	41,027
Total imports (cif)	..	20,661	49,275	55,800
Food	..	1,379	1,655	1,507
Fuel and energy	..	4,354	4,258	6,362
Capital goods	..	5,932	13,570	13,593
Export price index (1995=100)	80	81	91	97
Import price index (1995=100)	65	74	113	118
Terms of trade (1995=100)	123	109	80	82



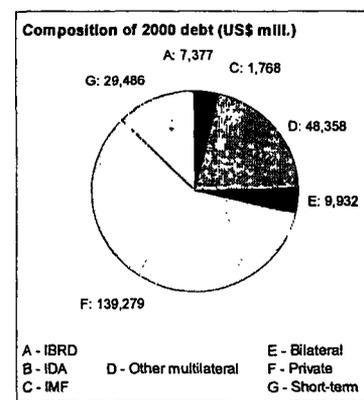
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	21,857	34,615	55,205	64,470
Imports of goods and services	27,788	26,708	63,443	72,741
Resource balance	-5,931	7,907	-8,238	-8,271
Net income	-7,044	-12,523	-18,848	-17,886
Net current transfers	42	834	1,689	1,521
Current account balance	-12,933	-3,782	-25,397	-24,636
Financing items (net)	8,990	-5,043	13,634	33,815
Changes in net reserves	3,943	8,825	11,763	-9,179
Memo:				
Reserves including gold (US\$ millions)	5,853	9,175	35,725	33,011
Conversion rate (DEC, local/US\$)	1.92E-11	2.48E-5	1.8	1.8



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	71,520	119,877	241,468	236,200
IBRD	2,035	8,427	6,822	7,377
IDA	0	0	0	0
Total debt service	14,757	8,168	67,522	53,200
IBRD	275	1,975	1,381	1,351
IDA	0	0	0	0
Composition of net resource flows				
Official grants	14	41	62	..
Official creditors	825	-633	660	-2,037
Private creditors	3,745	-427	-11,828	-32,675
Foreign direct investment	1,911	989	32,659	..
Portfolio equity	0	0	1,961	..
World Bank program				
Commitments	820	905	1,863	1,593
Disbursements	343	788	1,533	1,692
Principal repayments	98	1,251	952	887
Net flows	245	-463	580	805
Interest payments	177	725	428	484
Net transfers	68	-1,187	152	341



Brazil
Natural Resources Management and Rural Poverty Reduction Project - Santa Catarina

Annex 11

Social Assessment

Background

Agriculture, Natural Resource Management and Poverty in Santa Catarina

Land and Rural Population

Santa Catarina was originally occupied by the Guarani, Kaingang and Xokoleng IPs. European settlement of the interior began around the middle of the 1700s and extensive forest clearance for agriculture from early in the Twentieth Century. By 2000, the population of the State had reached 5.3 million (of which about 7,000 are IP), representing 3.1% of the Brazilian population and showing an increase of 17.4% over the previous decade; 21.3% of the present population is rural. The increase over the last decade derives entirely from the urban segment of the population. Rural population fell by 14.8% in the same period, representing a decline of 197,000 persons.

Farming in Santa Catarina is dominated by small holdings. Among the southern states, Santa Catarina has the highest proportion of small farms. Over 90% of the rural population depends on farming. Of the total of some 203,000 establishments recorded in 1995/6, 90% had less than 50 hectares and 35% were below 10 hectares, giving the highest proportion of small farms of any southern Brazilian state. The great majority of farmers live on and own the land they use. Production systems are very diverse, ranging from purely subsistence agriculture by the smallest and poorest farmers, to modern, highly technified farming on medium or larger holdings. Integration of cropping with intensive livestock rearing under contract with processors is common, especially in the west of the State where some 43% of holdings and 45% of persons occupied in agriculture are located. Elsewhere, depending on soils, climate and proximity to markets, farmers may specialize in tobacco, cassava, soy, fruits, vegetables, irrigated rice or extensive livestock. IP usually practice swidden horticulture, hunt, fish and collect forest products, described in detail in Annex 13.

The rural population from which the project target group is drawn can be classified as follows, according to access to land and income--the latter expressed as on-farm net income *per capita* in terms of the number of officially defined minimum wages (currently equivalent to about US\$65) per family.

- *Marginal farmers* who operate small plots mainly for subsistence using family labor and with on-farm net incomes of less than one minimum wage per family member. They only occasionally have spare labor to sell off-farm and rarely join co-operative activities. They represent about 52% of farms, 32% of the farmed area and 51% of the population of the State occupied in agriculture.
- *"Transition" farmers* who also have small farms, but generate on-farm income of one to three minimum wages per family member and usually sell at least some excess production. They also use mainly family labor, seldom process their output before sale to add value and do not often sell their labor. They represent some 33%, 24% and 26% respectively of farms, farm area and the agricultural workforce.
- *"Consolidated" family farmers* with net on-farm income over three minimum wages per family member. At least 70% of farm output is sold but usually 50% of farm labor is still provided by the family. Commercial activities are most often contract rearing of pigs and poultry using their own crops for feed, production of animal feed grains or agroindustrial crops such as tobacco or soya. This category represents some 10% of holdings, 15 % of farmed area and 9% of the workforce.
- *Permanent farm employees*, usually of consolidated or larger commercial farmers, who are about 6% of the workforce--a total of 42,500 people.
- *Temporary farm workers* who live around towns or on the fringes of areas of intensive agriculture, often in shantytowns; a further 47,000 people.
- *Rural dwellers not fully dependent on agriculture* including retired people, operators of rural leisure centers or weekend visitors. These occupy some 1.5% of farms and of the farmed area.
- *The indigenous population*, estimated to number 6,500-7,000 people (including about 500 *mestizos*-- people of

mixed race), including the Xokleng, the Kaingang and the Guaranis. Historically, these people have depended for their livelihoods on the Atlantic forest resources, and their economic systems are primarily oriented to subsistence production. Further information is provided in Annex 13.

Definition of the Target Group

Within the rural population described above, the **target population** consists of an estimated 105,000 small and marginal farming and laboring families plus a significant portion of the state's 7,000 IP. The target population resides primarily in 880 out of Santa Catarina's 1,683 microcatchments (an estimated 4.0 million hectares). Among them, the **priority target group** consists of rural poor with a per capita net farm income of less than two minimum wages, which includes both those classified above as "marginal" due to having a net agricultural income of less than one minimum wage, and a category "transitional type 1" having a per capita net farm income of less than two minimum wages, as well as all IP. The priority target group consists of an estimated 80,000 poor rural families, i.e., 75 % of rural families would be benefited under the project.

Targeting

Targeting of project microcatchments, and their selection in the municipalities within which they are located, would be based on the application of criteria that combine consideration of (a) social indicators and factors such as the concentration of small farmers and IP; and (b) environmental status, as represented by degradation of natural resources and threats to biodiversity (see Annex 2, Appendix 1 on targeting). In the one third of municipalities considered from the application of these criteria to be most needy, two thirds of microcatchments would be eligible for assistance. In the middle third, half the microcatchments would qualify. In the least needy third, only one third of the microcatchments would qualify. Municipalities, through their existing Rural Development Councils, would choose which of their individual microcatchments to target using the specific criteria mentioned above. Once a microcatchment had been selected, all local residents would be eligible to participate in the project through the formation of an MA, although support agencies would be required always to focus the operation of MAs on the needs of poorer people.

Implementation Strategy

Various social issues or obstacles to empowerment would be addressed by the project, which between them maintain the *status quo* of the target group. They include lack of confidence, apathy and incomplete knowledge of opportunities on the side of beneficiaries and customs of paternalism, subordination and self-seeking among more privileged outsiders. Change would be introduced through the project's highly participatory approach. Prior publicity, an extensive training program and the creation of "deliberative" stakeholder bodies would be the principal means by which the project would alter social perception and behavior and build social capital among the target group, and thus contain social risks to project outcomes. Particular attention would be given to the empowerment of IP, as is described in Annex 13.

During *implementation*, targeting and stakeholder participation and ownership of the project would be based on an extensive preliminary program of project publicity, intensive training, motivation and mobilization of stakeholders, four levels of project decision-making or approval stretching from the MA through municipal, regional and up to state levels and operational procedures to ensure democratic decision making.

Summary of Social Assessment

Objectives

The social assessment aimed to provide a better understanding of the nature and causes of rural poverty in Santa Catarina; identify the most affected groups, their socioeconomic characteristics and the causes of their present situation; explore social and organizational options and operational requirements for poverty alleviation among those forming the identified target group for project support; and recommend actions to be taken to implement the project.

Methods

The assessment that underpins project design is based on a combination of stakeholder consultation and review of secondary data sources.

Project design was the subject of a four-year process of widespread consultation with stakeholders and their representatives, involving 20 regional meetings including some 2,000 stakeholders¹. As well as the target group themselves, participants included representatives of community leadership, local government, government technical, social and environmental services, the private and voluntary sectors. During the final preparation stage (in December 2001), the Government organized three public hearings which counted on the participation of 103 representatives from the target group and other relevant government and non-government organizations. These consultations aimed at discussing the project proposal with stakeholders and took place in three of the State regions (western, center and southern). Invitations to public participation in these events were published in 18 different newspapers circulating at the local, regional and state level. In addition, individual invitation letters were sent to key institutions representatives from the target beneficiaries (producers and rural works organizations and federations, etc.), municipal associations, credit institutions, universities and NGOs. These meetings proved to be an excellent opportunity to discuss and disseminate the proposed project concept to a broad forum of stakeholders and generated lively discussion which contributed significantly in the improvement of the final PCD. The situation and needs of IP were the subject of a separate exercise that generated a preliminary diagnostic report in 1998, and further consultations in the last quarter of 2001 and January 2002 (see Annex 13).

The published data sources for supporting information are listed in Appendix 1 of this Annex.

Summary of General Findings

Poverty in Brazil declined somewhat from the early to the mid-1990s but showed a gradual rise later in the decade. There are marked regional differences in poverty. Although regarded as typically a phenomenon of Brazil's Northeast, other regions are also significantly affected and have in recent times often been less successful in containing poverty than the Northeast.

Since the 1980s poverty has become an increasingly rural phenomenon: by 1998, 44% of all Brazil's poor families and 51% of all poor people lived in rural areas. Santa Catarina has about 2% of the country's destitute families, of which 56% live in the rural areas --a higher proportion than in any other geographical region; about 38% of the rural population live in households below the poverty line. Between 1995 and 1998, national *per capita* incomes declined by about 0.4% per annum, while that of rural families fell by about 1.1%, and that of the small-scale farmers by about 2.5%. (this statement directly contradicts the Bank's rural poverty strategy...be careful) The State of Santa Catarina has been no exception to these trends.

In the later 1990s national economic reforms and Brazil's decision to open its agriculture to international competition by joining Mercosur greatly exacerbated poverty among small-scale farmers. Following exposure to open competition

¹ These 2,000 stakeholders included about 950 regional, local political and community leaders, as well as NGOs and representatives from the target group. During the four years of preparation, a continuous consultation and participation process was maintained, involving the Cederural, Universities and the following representatives from civil society: Organization of Agricultural Cooperatives in SC (Ocesc), Federation of Producers Organizations of SC (Faesc) and Federation of Rural Workers of SC (Fetaesc), and local environmental NGOs.

from large-scale commercial producers elsewhere, farm gate prices and agricultural profits fell. Simultaneously, the decrease of subsidies and the limited availability of commercial credit at high interest rates worsened the predicament, particularly that of the small-scale farmer. Commercial farmers shed labor, thus removing opportunities for marginal farmers to salvage their livelihoods by working outside the family land. These trends have fueled Brazil's rural exodus: Between 1992 and 1998, about 2.4% of rural people fled their land annually and migrated to the cities. In the southern states, migration rate averages about 4.1% with Santa Catarina following this pattern.

Poverty among the indigenous population is particularly acute and is further documented in Annex 13. About 94% of the IPs of Santa Catarina live in 10 regularized Indigenous Lands (T.I.s) totaling about 40,000 ha. Historically, these people derived their livelihoods from Atlantic forest resources; however, as a result of various activities in the last 100 years by the majority non-indigenous population there has been a drastic reduction in the area of forest available to IP, rendering them among the poorest segments of southern Brazilian society. They have never benefited from development.

There is a strong connection between poverty and illiteracy, poor health and large family size. All these indicators score worse for the rural population of Santa Catarina than for urban people. Rural health is particularly at risk in the State due to the high concentration of pig and poultry enterprises; unsafe disposal of their waste often contaminates rural drinking water sources.

Central to project success is the need to give all groups of beneficiaries the means, individually and collectively, to express their wants and to gain an equitable response from the development process. This would have to lead eventually to project ownership and durability of the social structure that is created. Such empowerment implies building social capital among the poor, without which they would be unable to exploit identified opportunities for sustainable increases in production, income diversification, job creation, better living conditions and resource conservation that the project would need to offer. Various social issues or obstacles to empowerment would need to be addressed, which between them maintain the *status quo* of the target group. They include lack of confidence, apathy and lack of knowledge of opportunities on the side of beneficiaries; and the customs of paternalism, subordination and self-seeking among more privileged outsiders.

Results of the social assessment suggest that change would best be introduced through a highly participatory approach, building on the demonstration under the LM II project that the microcatchment can be an effective basic unit for community organization as well as providing the basis for coordinated physical changes in resource and environmental management. Prior publicity, an extensive training program and the creation of fully participatory stakeholder bodies should be the principal means to alter social perceptions and behavior and build social capital.

Detailed results of the social assessment are given in Working Paper 16 (Avaliação Social). Additional highlights are summarized below.

- After some previous improvements, poverty began to rise again in Brazil as a whole, and in Santa Catarina, at the end of the 1990s. By 1999, about 32% of urban families in Brazil were earning less than two minimum wages; but for rural families the proportion was over 71% -- 2.2 times greater--and for Santa Catarina the proportion was 2.5 times greater.
- Polarization of agriculture between intensive modern enterprises and poor, subsistence holdings is ongoing. An increasing number of farmers face economic, social and environmental degradation, leading them either to leave the land or--if they remain--to face rising poverty.
- Nevertheless, in Santa Catarina over 94% of holdings (totaling 192,000) are still classified as "family farms" operated by the occupier on his/her own account. They work 60% of farm land (about 4 million hectares) and generate over 71% of the agricultural GDP of the State.
- There has however been a general decline in agricultural earnings during the 1990s, affecting all classes of farmer.
- There was, largely in response to falling profits, a reduction in agricultural employment between 1992 and 1999. This was more pronounced in Santa Catarina than for the rest of the country: nearly 25% of agricultural jobs were lost, totaling 178,000.
- The rural labor force currently includes a higher proportion of children, adolescents and over-60s than in towns.
- Many of those losing agricultural jobs could not find other work in rural areas so migrated to towns, particularly the young people. The proportion of rural population in the State consequently fell from about 28% in 1991 to a little over 21% in 2000.
- Income disparities between small family farms and the "consolidated" and other better-off farmers widened over

the 1990s. The latter earned an average of eight times more than the average family farm in 1992; the gap had widened to 12.5 times by 1998. This occurred despite small farmers generating higher average yields per hectare, operating at higher labor intensity and investing more per hectare of their land.

- Small farm sizes combined with limited access to credit and technical assistance were considered to have contributed to the above trends for family farms.
- Rural people perceive their quality of life as having degraded over the last decade. Field diagnostic surveys pinpointed the following preoccupations among the target group: declining quantity and quality of water supplies; bacterial and pesticide contamination of water sources; deforestation and declining biodiversity; low returns to labor and limited retention of value added by the farmer; poor housing, limited access to additional land, inadequate health and education facilities; and limited outreach to the poorer people of government development programs.
- Despite the success of the Bank's previous LM II project in improving land management in Santa Catarina, most of the benefits reached only the better-off farmers. While adopters of improved technology fared better than non-adopters, no farmers were fully protected from the declines in farm profitability due to national macro-economic adjustments¹.
- Rural people in Santa Catarina have higher levels of illiteracy and infant mortality than urban people. Fewer have access to safe drinking water, domestic sanitation, sewerage and waste collection services.
- The production technology used by most of Santa Catarina's farmers compares favorably with the rest of Brazil; nonetheless, small farmers receive less technical assistance and credit and own or use less machinery, fertilizers and other inputs than larger farmers. Family income is positively correlated with greater access to, and more widespread use of, these factors of production.
- Operators of small family farms have a greater propensity to co-operate with each other than do larger-scale farmers.
- Fewer farmers than in the past are advising their sons to remain in farming. Young men are the keenest group to leave rural areas; low earnings and a perceived lack of future on the farm are the reasons most often given for urban migration.

Conclusions

Less than 12% of farms in Santa Catarina form part of the modern, commercial sector. More than 50% of the rural population--650,000 people including more than 7,000 indigenous--face social exclusion and low earnings that cause them to live in rising poverty or to contemplate urban migration. About half of these people have a net family income *per capita* of less than one minimum wage or are destitute. Falling farm-gate prices for their staple products --which are forecast to decline further during the present decade--plus the loss of rural jobs will aggravate their predicament. Environmental degradation will intensify negative impacts. Project interventions should therefore address the following constraints:

- Low returns from staple crops due to lack of opportunities to diversify into more profitable activities and increase value-added on farm.
- Environmental risks and land degradation affecting the rural poor, who were not specifically targeted by LM II.
- Lack of off-farm employment opportunities in rural areas.
- Capital constraints affecting poor people who wish to invest in addressing the above constraints.
- The changes in "mindsets" and organization of rural interventions needed to reach and empower the target group, and to build their social capital.
- The low levels of literacy, housing, health and sanitation of the target group, all of which jeopardize their effective participation in their own development.
- The special problems of responding to the needs of IP.

¹ LM II did not contain specific mechanisms to target the poor. It responded to concerns of the time to place the maximum of farmland under practices that would reduce erosion and contain floods. Brazil's decision to join Mercosur and macroeconomic adjustments reduced farm profitability from the mid- to late 1990s. However ex-post evaluation of LM II shows that farmers who adopted improved practices suffered smaller declines in incomes than those who did not. Marginal and poor farmers on whom LM II had least impact were the worst affected. More recently the flexible exchange rate regime, devaluation of the Real and lower interest rates have boosted Brazil's agriculture, in particular for export products.

Design Considerations for Project Components

In designing project components to address the constraints identified by the Social Assessment, the following should be taken into account:

- *Rural Poverty:* Through the application of clear criteria for targeting the rural poor and of a highly participatory and decentralized diagnosis at the local and farm level, the project would concentrate its efforts in addressing the main causes of rural poverty.
- *Low quality of life of the rural poor:* The impacts on family health from poor housing, lack of sanitation and polluted domestic water supplies would be addressed through grants for the rural poor.
- *Insufficient knowledge of participatory methods by technical staff:* Project implementers and beneficiaries would be exposed to effective participatory methods, which are essential to achieve governance. A strong training program proved to be an important tool to induce needed technical changes under the LM II.
- *Land degradation:* The continuing degradation, declining productivity and falling earnings from the land of poorer and marginal farmers would be addressed on a priority basis. They were the least able to take advantage of the technical support and incentives offered by the previous LM II project.
- *Water pollution:* Water pollution due to farm intensification and concentration of pig, poultry and pig-fish production --consequence of macroeconomic adjustment and opening of markets--would be addressed by resolving water and other environmental conflicts to directly improve quality of life of beneficiaries and of society at large. It will also increase opportunities to supply sophisticated markets willing to pay premium prices for certified and safe food products. Support to the adoption of Conservation Agreements and Terms of Adjustment of Conduct to resolve environmental conflicts associated with water pollution from animal waste and other relevant polluters will help to achieve a more sustainable management of natural resources.
- *Lack of opportunities to reach niche markets:* Lack of opportunities of poor and marginal farmers, due to poor access and low bargaining power, will be addressed through initiatives aimed at enabling them to associate into viable groups, so as to achieve economic scales and diversify into alternative products seeking niche markets. Addressing this issue will allow poor and marginal farmers to obtain price differentials to help offset declining incomes from their staple crops.
- *Lack of resources and technical information:* Seed capital, technical assistance and information needed to increase post-harvest value added from agricultural products and to facilitate certification of origin would be provided to poorer and marginal farmers to help them take advantage of paths towards poverty reduction.
- *Integration of programs and policies at the local level:* The limited and uncoordinated flow of resources reaching the target area and population and the limited knowledge of the productive bases would be addressed through the adoption of a decentralized approach focused on decision-making at the local level with properly trained decision-making bodies. The municipal and microcatchment participatory diagnostics and other planning mechanisms have proven to be strategic instruments to integrate policies and programs and to increase the effectiveness and impact of the public resources available for poverty reduction and environmental management at the local level.
- *Insufficient integration of land, water and conservation activities and programs:* The broader, longer-term environmental threats to land, water and biodiversity resources which, if further neglected, will negate any shorter-term livelihood gains will be addressed by piloting the preparation and initial implementation of river basin sub-catchments plans (or watershed plans) using the project microcatchment plans as the building blocks and involving the broad spectrum of watershed stakeholders.
- *Fiscal Performance and Structural Reform:* The State's efforts to further improve its fiscal performance, in particular by improving effectiveness and efficiency of its public expenditures, would be supported by a technical assistance program to review, *inter alia*, compliance with the benchmarks of its Federal Agreement, undertake an assessment of the targeting mechanisms and impact of its social and safety net programs, while it would also review its energy sector restructuring program now under implementation. Of even greater importance would be the assistance to review the economic, legislative and institutional framework governing water resources and sanitation that would complement efforts being financed under other Bank loans.

Securing the Necessary Stakeholder Participation

Given the different characteristics of the target group for the present project, arrangements for stakeholder participation are built on, but also go well beyond, those used in the LM II project. Stakeholder participation and ownership for the

present project are based on four design features. First, there would be an extensive preliminary program of dissemination of the project, explaining its aims, rules, strategies and procedures to all strata of rural society. Potential beneficiaries as well as potential implementers, partners and stakeholders in the private and voluntary sectors should all be covered. Second, intensive training, motivation and mobilization of stakeholders would start well before and continue throughout the project: content, location and duration of training sessions, courses and events should be matched to the diverse types of recipient, ranging from the rural poor to local power-holders, decision makers, staff of government organizations and the private and voluntary sectors. Third, there would be multiple levels of project decision-making or approval, stretching from the MA through municipal, regional and up to state levels. At every level beneficiaries or their representatives would comprise the majority on decision-making bodies. Fourth, the operational procedures of the project and the support provided to beneficiaries to apply them should be oriented so as to ensure that decisions could only be taken on the basis of democratic consensus.

Monitoring and Evaluation

Monitoring and evaluation would also be highly participatory and involve the full range of project stakeholders--especially the target group and their representatives at all levels. M&E would cover economic, social and environmental indicators. Results would be widely disseminated especially within beneficiary communities. Regular meetings and workshops would be scheduled with stakeholders to identify any obstacles to implementation or shortfalls in the project's impact in alleviating rural poverty. Mechanisms for corrective action are built into project arrangements for organization and management.

Annex 11: Appendix 1

Secondary Data Sources

- (1) As avaliações do impacto sócio-econômico e comportamental do Projeto Microbacias 1, elaboradas pelo ICEPA, que envolveu pesquisa de campo junto a uma amostra de 1.430 produtores rurais (1,6% dos 87.265 produtores assistidos pelo Projeto), distribuídos em 224 das 559 (40,1%) microbacias trabalhadas pelo Projeto, realizada nos meses de agosto e setembro de 1998;
- (2) Os dados censitários demográficos e econômicos compilados, tabulados e divulgados pela Fundação Instituto Brasileiro de Geografia e Estatística (IBGE) através dos Censos e Contagens Populacionais (1960, 1970, 1980, 1991, 1996 e 2000) e das Pesquisas Nacionais de Amostra de Domicílios – PNAD (relativas aos anos de 1992, 1993, 1994, 1995, 1996, 1997, 1998 e 1999);
- (3) O documento Síntese de Indicadores Sociais 1999 do IBGE;
- (4) Os dados nacionais sobre a agricultura familiar disponíveis através da página www.incra.gov.br/sade/;
- (5) O “Mapa da Fome: Subsídios à Formulação de uma Política de Segurança Alimentar”, publicado pelo Instituto de Pesquisa Econômica Aplicada (IPEA) em março de 1993;
- (6) As análises sobre o universo rural brasileiro realizadas no âmbito do Projeto RURBANO (Unicamp);
- (7) As análises sobre a questão da pobreza rural realizadas no âmbito do seminário sobre os Desafios da Pobreza Rural (Banco Mundial);
- (8) O estudo de Francisco G. Carneiro, “Brazil: An Assessment of Rural Labor Markets in the 1990s”;
- (9) As informações sobre a agricultura catarinense compiladas pelo ICEPA/SC e consolidadas em suas diversas publicações, com destaque para o “SC-AGRO 2000” (CD-ROM) e a “Síntese Anual da Agricultura de Santa Catarina (2000-2001)”;
- (10) O estudo “Bacias Hidrográficas do Estado de Santa Catarina – Diagnóstico Geral” preparado sob a coordenação da Secretaria de Estado do Desenvolvimento Urbano e Meio Ambiente.

Brazil
Natural Resource Management and Rural Poverty Reduction Project – Santa Catarina

Annex 12

Project Management Structure

Introduction

Project management and implementation would be the overall responsibility of the Santa Catarina's SDA supported by the SDM, FATMA, under SDM and EPAGRI and ICEPA, under SDA. Draft Subsidiary Agreements between SDA and these were provided at negotiations, while the signing of these agreements will be a condition of Loan Effectiveness. Also, a Cooperation Agreement will also be signed one month after Loan Effectiveness to assist SDA, when and as needed, in facilitating the participation of IP communities in the project.

The project management structure is decentralized with executive bodies at the state, regional, municipal and microcatchment levels. Building on the experience of the LM II, it has been designed to maximize participation and ownership of decision-making by beneficiaries by transferring these responsibilities and project accountability to the lowest practicable administrative levels. These aims would be achieved by creating a pyramid of inter-linked "deliberative" bodies in parallel to the executive ones, stretching from state level through 14 operating regions to Santa Catarina's 293 municipalities, the 880 project microcatchments and eventually down to the community level. (see Figure 1). Where similar deliberative bodies already exist--at state and municipal levels--the project's specific deliberative bodies will be attached to them but with specific membership to ensure full representation of the target beneficiaries. To ensure that development is demand-led, at least 50% of the participants in project deliberative bodies at every level would be members of the target group or their representatives. Other members would span remaining stakeholders in the participatory process--NGOs, labor unions, co-operatives, private firms, government organizations involved in implementation and local political figures such as mayors.

The Government has set up a small PMU at state level attached to the office of the SDA. The PMU is composed of a core team of qualified professionals and has small departments dealing with technical management, auditing, finance, procurement and administration, monitoring and evaluation and operation of the RIF. It is staffed mainly by secondment from the partner executive organizations (EPAGRI, ICEPA and SDM/FATMA) complemented with specialized consultants to be contracted by ICEPA to include technical areas, financial management, procurement, administration and internal auditing. To ensure proper implementation of the Indigenous People's Strategy, and coordinate indigenous activities, a social scientist is assigned to the PMU. In addition, EPAGRI regional and municipal offices will serve as project executive units of the PMU that would also have small multi-institutional teams in each of the 14 EPAGRI regional offices. The function of the PMU and its executive partner organizations--notably EPAGRI, FATMA, ICEPA and SDM--would be to support implementation of the collective decisions and programs of the deliberative bodies coming from the various levels. Thus the state, regional and municipal project executive units would also act as the executive arms for the stakeholder deliberative bodies responsible for participatory planning, decision-making and oversight of implementation at state, regional, municipal and microcatchment levels (see Figure 2).

Deliberative responsibilities. On a scale appropriate to their levels in the pyramid, deliberative bodies would set project implementation policy and priorities, approve annual operational plans and fund allocations, resolve conflicts between stakeholders, approve sub-projects/grants, monitor and evaluate progress and approve implementation reports. These stakeholder "deliberative" bodies at microcatchment, municipal, regional and state levels would also be responsible to oversee the focus of the project on poverty alleviation through the correct application of the selection criteria at municipal and microcatchment levels. Proper focus at farm level would be monitored through the adequate application of the selection criteria of the RIF.

Executive responsibilities. An executive chain of mainly government, mostly seconded, staff has been formed. Under the overall responsibility of SDA, the executive chain would service and support deliberative bodies in fulfilling their responsibilities and in the implementation of the actions they demand. The executive structure would

echo the deliberative pyramid, with small executive units at state, regional and municipal levels (see Figure 1). At the lowest level, microcatchments would be assisted to hire their own external support agents, but these would still be trained and backstopped by executive units. The executive chain would also be responsible for loan administration, project accounting, auditing and meeting the information and reporting requirements of the Bank.

“Deliberative” (participatory decision-making) Bodies

State Level. At the state level, a Project Deliberative Committee (*Comissão Coordenadora Estadual, CCE*) was established by Resolution No. 001/2002/SDA/CDRURAL of February 18, 2002, by the existing State Rural Development Council (*Cederural*)¹, as a special sectoral body (*Câmara Setorial de Microbacias*) with duration limited to the life of the project to ensure that the project target population and interest are adequately represented. Cederural is the overall State deliberative forum for agricultural and fisheries policy formulation and priority setting, as well as resource allocation in the fields of agriculture, livestock, forestry and fisheries. It established the criteria for the RDF under which the project’s RIF would operate. The creation of the CCE under the Cederural is logical given the convergence of Cederural’s objectives, representation and procedures with those of the project.

The project’s CCE would have 12 to 15 members, including representatives from the government implementing agencies (SDA, EPAGRI, ICEPA, SDM, FATMA), the Federation of Municipal Associations (Fecam) and relevant organizations represented in Cederural, such as the Organization of Agricultural Cooperatives in Santa Catarina (Ocesc), the Federation of Producers Organizations of SC (Faesc), and the Federation of Rural Workers of SC (Fetaesc). In addition, as for all deliberative bodies, at least 50% of the CCE members would be project beneficiaries or their representatives from MAs, one of which would be a representative of the IPs benefited under the project².

The CCE would: (i) ensure implementation of project policies for poverty reduction and natural resource management; (ii) set overall project priorities such as the selection of priority regions for project support; (iii) review and approve Project Annual Operating Plans (POA) and budgets provided by executive bodies; (iv) approve funding applications from the RIF above R\$50,000 (US\$20,000 equivalent); (v) resolve conflicts, particularly any arising from policy differences among sectoral institutions; (vi) monitor and evaluate implementation performance by receiving and approving progress reports from the project’s executive bodies; and (vii) approve any changes proposed by executive bodies on the basis of above reports.

Regional Level. In each of the project’s 14 operating regions a Regional Deliberative Committee (*Comissão Coordenadora Regional, CCR*) were also created by the Cederural, as an extension of the Cederural. CCRs would have between 12 to 15 members that would include the representatives from the government implementing agencies (SDA, EPAGRI, ICEPA, SDM, FATMA), Municipal Associations of the region, plus the 50% of members representing direct beneficiaries through their MAs. In regions where IP communities are present, at least one member of the CCR would be a representative of the benefiting IPs.

CCRs would: (i) coordinate project policy for the region by consolidating the municipal demands and plans and setting priorities—for instance for fund allocations between municipalities; (ii) oversee the POA for the region and consolidate funding requests coming from municipalities before forwarding them to the CCE; (iii) approve funding

¹ The Cederural was legally created in 1992 (State Law 8676) and the following composition: (i) the State Secretary of Rural Development and Agriculture, as President; (ii) representatives from the State Secretariats of Environment, Economy and Education; (iii) representatives from the State Financial System, State Environmental Foundation (FATMA), State Bank (Besc), and the Federal Ministry of Agriculture Office to the State Santa Catarina (DFA/SC); and (iv) the following representatives from civil society: Organization of Agricultural Cooperatives in SC (Ocesc), Federation of Producers Organizations of SC (Faesc), Federation of Rural Workers of SC (Fetaesc), Landless Workers’ Movement (MST/SC), Fishermen’s Federation in SC (Fepesc), Consumer Protection Organization (Procon), Federation of Industries in SC (Fiesc), Commodities Exchange and Association of Agriculture-related Professionals and Technicians.

² As provided for in the IPs Strategy (Annex 13).

applications from the RIF in the range of R\$5,000 - 50,000 (US\$2,000 - 20,000 equivalent); (iv) resolve conflicts; (v) monitor and evaluate implementation performance by receiving and approving project progress reports from executive bodies; and (vi) approve any changes proposed by the executive bodies on the basis of above reports.

Municipal level. In each of the project municipalities, a Municipal Deliberative Committee (*Comissão Coordenadora Municipal*, CCM) would be established as a sectoral body (*Câmara Setorial de Microbacias*) attached to the existing Municipal Rural Development Council (CMDR) to ensure that the project's target population and interest are adequately represented. CCMs would need to be created as a condition for receiving any financial support from RIF. This condition will be reflected in the Cooperation Agreement to be signed between SDA and each municipality prior to initiating project activities in such municipality. Life of the CCM would be limited to the duration of the project. The existing CMDRs aim at implementing their overall Municipal Development Plans and include representatives from rural communities, professional associations, technical assistance entities, municipal government executive and legislative bodies and NGOs. During project start-up, the CMDRs would select the microcatchments to be targeted by the project and assist with the formation of MAs as legal entities. Subsequently, the CCM would be created with 50% of its membership consisting of beneficiaries from the MAs of the selected microcatchments. In municipalities where IP communities are present, at least one member of the CCM would be a representative of benefiting IPs. Remaining members would be from other stakeholder categories and executive implementing agencies.

The CCM would: (i) set implementation priorities for the municipality; (ii) endorse Microcatchment Development Plans (MDPs) and municipal POAs and pass them on to regional level; (iii) evaluate funding applications against RIF criteria and local priorities; (iv) approve applications, if appropriate, up to the value of R\$5,000 (US\$2,000 equivalent); (v) resolve conflicts between stakeholders; and (vi) monitor and evaluate implementation of MDPs.

Executive Bodies

Santa Catarina's SDA has a state-wide mandate for promoting sustainable agricultural and rural development. As in LM II, SDA would have overall executive responsibility for the project.

State Level. The State Government has established a PMU (Secretaria Executiva Estadual, SEE) to manage project implementation with State Decree No. 3954, of January 30, 2002. It would have small departments dealing with technical management, financial, procurement and administrative management and operation of the RIF.

Under the authority of the SDA (see Figure 2), the PMU would: (i) oversee, coordinate, administer and monitor the project; (ii) consolidate the beneficiaries' demands, as transmitted by the CCE, CCR and CCM, into a POA, and submit this Plan to the CCE for analysis and approval; (iii) estimate the project's financial requirements; (iv) authorize the release of funds and send requests for reimbursement, according to the approved POAs; (v) promote institutional coordination among the other implementing agencies; (vi) prepare statements of account for the World Bank and execute procurement procedures under the responsibility of SDA and oversee those to be procured by other implementing agencies; (vii) prepare management reports for submission to the World Bank and to the State and Federal Government institutions; (viii) perform related tasks, as designated by CCE. In addition, the PMU, through the ICEPA, would contract specialized technical assistance to strengthen the PMU and all services for external project evaluation and financial audit.

The PMU is headed by a Project Executive Secretary (Project Manager) and have a Technical Manager, a Finance and Administration Manager and a Rural Investment Manager, all appointed by the State Government. A technical and financial M&E unit is attached directly to the Project Manager's office.

The PMU managers are assisted by a multidisciplinary team of specialists, most of whom are seconded from the supporting Government organizations--SDA, EPAGRI, SDM, FATMA and ICEPA. Specialized consultants were hired by ICEPA to strengthen the PMU's capacity in technical, administrative, financial and procurement matters. Full staff of the PMU would include at least:

- Three professionals attached directly to the Technical Manager (who would be the overall coordinator of project Components 1 and 3): a Capacity Building Expert to coordinate the Training and Environmental Education sub-components; an Agronomist to coordinate the Rural Extension and Research sub-components; and an

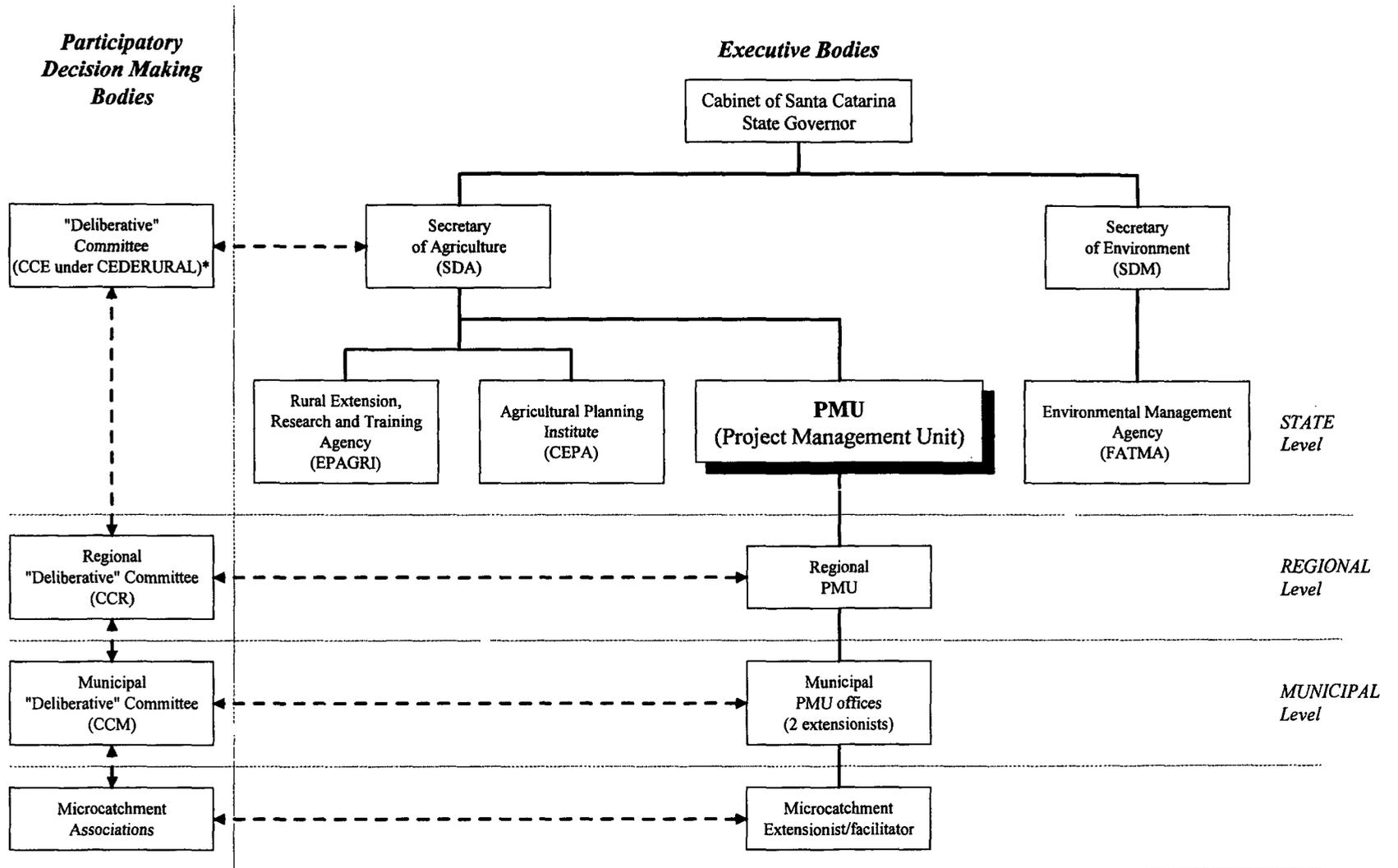
Environmentalist to coordinate the Environmental Management Component, and who would be appointed separately by the State Secretary for the Environment.

- A Grant Processing Officer working under the Rural Investment Manager (the overall coordinator of project Component 2). He/she would have three general service staff to assist in the operation of the RIF.
- Three professionals under the Financial and Administrative Manager, including an accountant, a finance officer and a procurement specialist. They would be responsible for managing the administrative and procurement functions of the project.
- One professional to coordinate project M&E. Duties would include the installation and operation of an MIS, which would be integrated with financial and accounting information and monitoring of project inputs and outputs.

Regional Level. To coordinate, administer and monitor the project at the regional level, a small sub-unit attached directly to the State PMU was established by the State Government by Decree No. 3954 of January 30, 2002, in each of the 14 administrative regions of the State. The Executive Secretaries of these sub-units are EPAGRI regional officers, who would be assisted in project execution by a similar small multi-institutional staff of SDA/EPAGRI and SDM/FATMA personnel, in this case drawn from individuals based in the regional offices of these organizations.

Municipal Level. Small executive units would be established at the municipal level, each consisting of one rural extensionist and one social extensionist or rural sociologist at existing EPAGRI municipal offices. They would be the local project "animators." Working in close collaboration with the CCM, they would initially be responsible for mobilizing stakeholders and coordinating project publicity. Through the dissemination of project information, they would increase awareness among the target beneficiaries and other stakeholders of the project objectives, opportunities and procedures. Subsequently, they would train project technicians, community leaders and the direct project beneficiaries at the microcatchment level and provide back-up assistance to microcatchment facilitators in forming MAs and providing technical and social assistance to beneficiaries. They would coordinate the preparation and implementation of the Municipal POAs to be approved by the CCM. They would be made available by secondment to project duties from EPAGRI, the municipality or in some case other partners such as NGOs or the private sector.

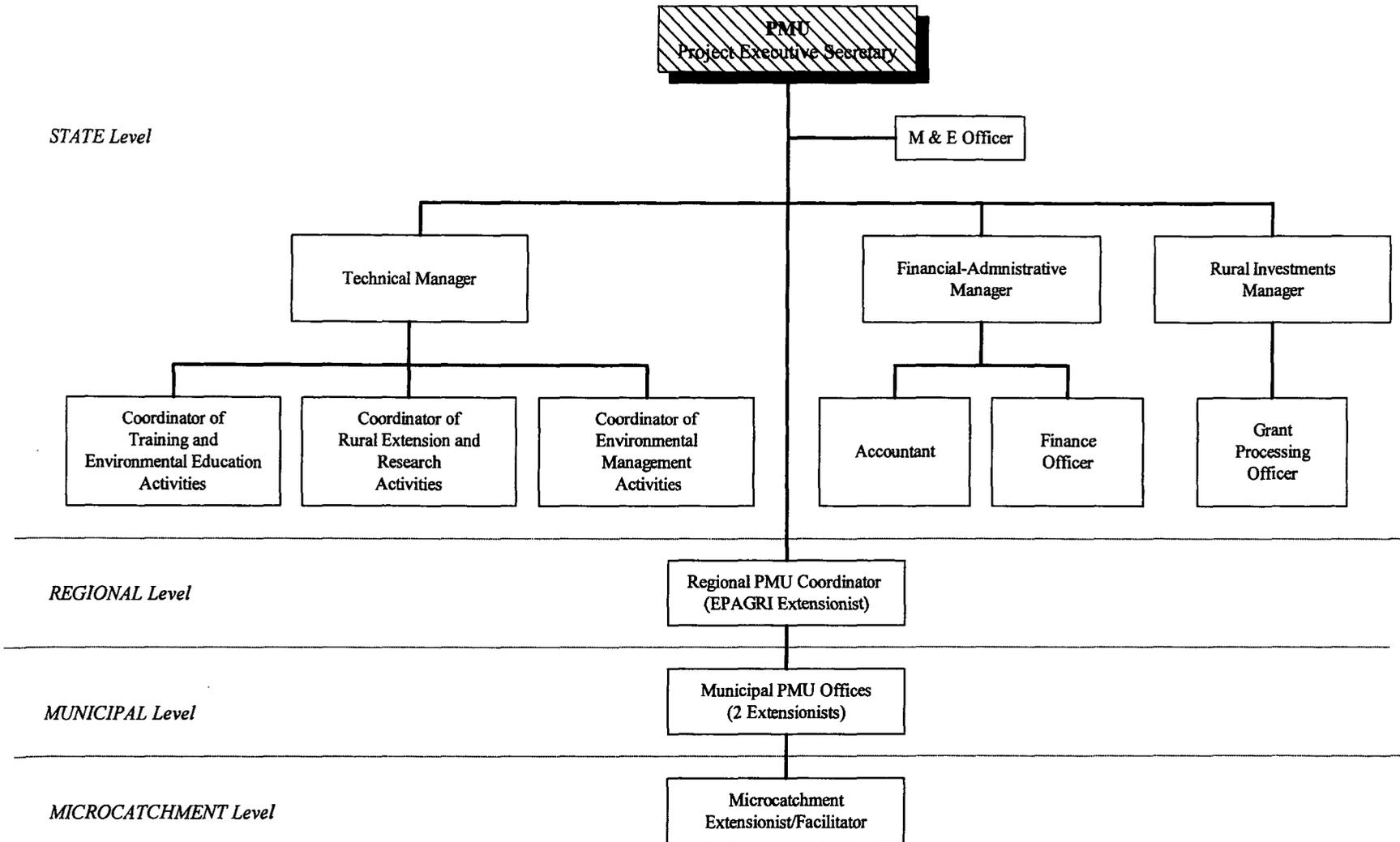
Natural Resources Management and Rural Poverty Reduction Project
 Figure 1. Project Management Structure



* CEDERURAL: State Rural Development Council

Natural Resources Management and Rural Poverty Reduction Project

Figure 2. Project Management Unit Structure



Brazil
Natural Resources Management Rural Poverty Reduction Project - Santa Catarina

Annex 13

Indigenous People's Strategy

Introduction and Background

About 94% of the approximately 7,000 IP of Santa Catarina live in 10 regularized indigenous lands which comprise about 40,000 hectares. It is important to recognize that these territories do not provide the natural resource base that could support the land extensive aboriginal adaptations. Currently, the Kaingang, Xokleng and Guarani peoples of Santa Catarina live by a mix of economic activities including extraction, subsistence and some commercialized agriculture (e.g. tobacco), non-agricultural income generating activities (e.g. handicrafts), periodic wage labor and public sector jobs (e.g. teachers and health agents).

The IP of Santa Catarina, similar to the non-Indian marginalized rural population of the state, live in a situation of dire poverty and significant degradation of their natural resources. Hence, considering the project's objectives of reducing poverty and improving natural resource management in rural areas, IP are included as one of the priority beneficiary populations of the project. It is not anticipated that the project would generate any negative effects on IP that would need to be mitigated.

It is important to note that, under this project, it would be the first time the State of Santa Catarina will work directly with IP on sustainable development. One of the basic elements of the State Government of Santa Catarina Plan is a proposal to cooperate in the process of indigenous development, respecting the principle of cultural pluralism and respect for the environment. Specifically, it is also the first time that State's agriculture and development and environment agencies will include IP, as per their interest, for extension, technical and organizational assistance and other assistance to help improve their production activities, natural resource management and conservation and agricultural and non-agricultural income generation.

The project would offer a variety of support to IP in targeted microcatchments, including, among others: assistance in establishing or strengthening local organizations (Components 1 and 4); support for special studies or diagnostics and formulation of Microcatchment Development Plans (Component 1), and in some cases river basin planning (Component 3); technical assistance for implementing specific Development Plans for their areas (Component 2); as well as access to the RIF to help finance activities in improving production, environmental rehabilitation, improving housing and sanitation and income generation activities (Component 2).

Consultations carried out with the three indigenous groups during project preparation brought some lively discussion with regards to the project proposal and demonstrated that they are positive about participating in the project; more specifically, the indigenous groups welcomed potential assistance with environmental management, production, housing and income generation and viewed favorably the project's participatory methodology and decentralized decision-making structure. They also expressed interest in working directly with state agencies, in particular EPAGRI (technical assistance and extension).

It is also important to note that the project overall is a "process project" (i.e., in continuous evolution) and that the indigenous strategy is to maximize IPs' access to on-going project activities described in this project document, making adjustments as needed (described below) to ensure that: their socio-cultural values and organizations are respected; they are empowered in the decision-making processes of the project; special considerations for natural resource use in indigenous lands are taken into consideration; and that special monitoring of IP activities is assured. The targeting procedures for the project, described in detail in Section 3 and in the Social Assessment (Annex 11), ensure that the presence of IP in a municipality or microcatchment will function as a weighted criterion for the targeting of that area for inclusion in the project.

Finally, it should be recognized that given the broad range and demand-driven nature of the project, it would be able to assist indigenous communities with the majority of their concerns that were articulated during the consultations.

The project addresses social concerns (e.g., improvement of housing and food self sufficiency), economic issues (e.g., strengthening income generating enterprises) and environmental concerns (e.g., reintroduction of native fauna species), thus contributing to improving the overall sustainability of indigenous communities.

Overview of IP of Santa Catarina

According to the Brazilian National Indian Foundation (FUNAI), the indigenous population of Brazil is approximately 326,000 and indigenous lands cover 946,452 square kms (about 11% of the national territory). Of the national population, about 27,950 IP live in Southern Brazil (8.6%) of which about 7,000 (2%) live in Santa Catarina. These include the Kaingang, Xokleng and the Guarani indigenous peoples. The Guarani are subdivided into two sub-groups, the Mbya and the Nandeva (or Chiripa). One characteristic shared by these three ethnicities is that they all define themselves traditionally as people of the forests, with their cultures, social organization and livelihoods strongly linked to the natural resources of the sub-tropical Atlantic Forests.

The IPs of Santa Catarina were victims of the historical process of colonization of the state and social exclusion that contributed to a current day situation of poverty and degraded natural resources in indigenous areas. In the 1970s, the well known ethnologist Silvio Coelho dos Santos characterized the IPs of Santa Catarina as victims of a long process of white domination that profoundly modified their original cultures and contributed to the disappearance of the sub-tropical Atlantic Forest (plains and Brazilian pine forests) that was their traditional habitat. He also concluded that while prolonged contact with whites had provided some resistance to new diseases and eventual demographic stability, it had also left the remaining indigenous population in a precarious situation in terms of livelihoods, health and education. He observed that the relationship between the national society and IP was generally characterized by violence and by white cultural, political, linguistic and economic dominance and by a large social gulf between the groups.

Most of the IP of Santa Catarina live in areas administered by FUNAI that are concentrated in three distinct locations in the state: (i) the west (predominantly Kaingang), (ii) the Alto Vale do Itajaí (predominantly Xokleng), and (iii) the coast (predominantly Guarani). As stated, there are 10 indigenous lands regularized (the major Xokleng area is currently under consideration for expansion); and in addition, there are another 10 indigenous lands that are either being identified or are pending where fewer people, largely Guarani, reside. There are also some indigenous families that live dispersed, both in rural and urban places. Table A summarizes the indigenous land tenure situation in the state.

More recently, scholars have observed increasing contacts between IP and national society, in particular greater integration of IP, many of whom are significantly acculturated, in the larger rural economy. Nonetheless, the indigenous groups of Santa Catarina insist on and maintain their ethnic identities. Some recent observers have remarked on an on-going process of cultural revitalization.

In summary, independent from the degree of integration with the national society, the IPs of Santa Catarina are preserving their ethnic identities both as specific ethnic groups and as IP. All want the right to be IP and be respected. They are trying to maintain their languages, intimately linked to maintaining their culture and worldview, and their life ways that are so intimately linked to their territories, traditional knowledge (such as of the biological diversity of the Atlantic Forest) and the sustainable use of natural resources.

Kaingang IP

According to the Anthropological Diagnosis: Indigenous Component of UHE Chapecó Falls (Fernandes and Kurtz de Almeida, 2001), the Kaingang belong to the linguistic family Macro-Jê and are traditional inhabitants of the Brazilian pine forests (araucária) in the states of São Paulo, Paraná, Santa Catarina and Rio Grande do Sul, where their presence is documented as of the 1600s. People of the forests and warriors, the Kaingang resisted and tried to escape the colonization that took place during the 19th century. Nevertheless, the colonists managed to push the Kaingang from much of their traditional habitat, thus altering the Kaingang culture and economy.

Contacts with the national society and other tribal groups disrupted Kaingang livelihood and reduced their territorial unity. In their view, their territorial space is defined by their material and social subsistence activities, such as

fishing, harvesting pine nuts, honey and wax and the horticultural cultivation of corn, pumpkin, beans and sweet potatoes. Their subsistence economy is largely defined by what they can extract from nature. Today, they cultivate subsistence plots of the aforementioned crops, with minor commercialization of surplus production, as well as working as temporary agricultural wage laborers. More recently, with uncertain returns from fishing, hunting and agriculture, they have been increasingly unable to feed themselves and have begun to depend on the sale of crafts for cash to supplement their livelihoods.

Today, the Kaingang, whose population is estimated to be 25,000 people in all of Brazil, live dispersed in thirty indigenous territories in the states of São Paulo, Paraná, Santa Catarina and Rio Grande do Sul. Despite their dispersion, they acknowledge themselves as belonging to the same group. During the 1980s attempts to regularize more of their lands, it was verified that there was a large concentration of Kaingang territory in the western regions of the State of Santa Catarina, the north and northwestern areas of the State of Rio Grande do Sul and in the southwestern area of the State of Paraná. In the western region of Santa Catarina, five Kaingang indigenous lands are now regularized: T.I. Xapecó; T.I. Toldo Chimbangue; T.I. Toldo Pinhal; T.I. Toldo Imbu; and T.I. Aldeia Condá, which are found in the municipalities of Chapecó, Seara, Abelardo Luz, Ipuacu and Entre Rios.

Each of these Kaingang areas differ, particularly with respect to their degree of insertion in the social-political-economic local context and attachment to the traditional Kaingang culture. In the indigenous lands of Xapecó, Chimbangue and Toldo Pinhal, it is said that Kaingang traditional cultural values are waning. However, their relationships to the local national society vary. In T.I. Xapecó (delimited in 1902, 15,623 ha) with a population of 3,500 to 5,000 individuals, only 20% are said to still speak their native language, with many traditional cultural practices already lost. The Xapecó Kaingang are politically and economically quite integrated into the regional society. For example, today the Kaingang chief is the vice-mayor of the municipality of Ipuacu where three indigenous representatives serve in municipal government, and there are two indigenous representatives in municipal government in Entre Rios.

The Kaingang of Toldo Chimbangue area (988 ha), with a population of about 700, appear to be even more acculturated and even fewer still speak the native language. However, their relationship to neighboring communities is largely characterized by conflicts deriving from their struggle for land. The Kaingang of Toldo Pinhal (880 ha), with a population of about 250, show similar levels of acculturation and language loss. The Toldo Imbu indigenous land is currently occupied by nine families.

T.I. Aldeia Condá is comprised of about 75 families or 360 individuals, divided in two locations, Gramadinho (52 families) and Praia Bonita (23 families). Although in recent decades they have been relatively involved in the life of the nearby city of Chapecó, they have maintained more strongly their language and traditional cultural practices. Unlike other indigenous communities in the region, the Kaingang of Aldeia de Condá do not work as hourly-paid workers for the neighboring farmers. Since their horticulture remains incipient, they depend largely on the sale of crafts to supplement their livelihoods. Their environmental concerns include the reduction in hunting yields and their claim that local rivers are being poisoned.

Xokleng IP

Before systematic contact with national society, the Xokleng were nomadic, with livelihoods from hunting and gathering of pine nuts and other forest products. They did not practice horticulture. The groups, which varied between 50 to 300 people, spent their winters on the plateau. In the summers, they would go down to the valley and assemble in larger groups in summer villages where they would celebrate initiation rites, weddings, funeral services and where they would hunt and plan attacks to their enemies. Once the ceremonial season ended, the village would be dismantled and the groups would leave for the plateau for the winter.

In contact since the 1910s, today the majority of the approximately 1,010 Xokleng of Santa Catarina live in the T.I. Ibirama, also called La Klano (14,156 ha), temporarily established in the 1920s and officially demarcated in 1965, located in Alto Vale do Itajaí (especially in the municipalities of Vitor Meireles and José Boiteux). A smaller group of Xokleng, approximately 50 people, live in the T.I. Rio dos Pardos (770 ha) which was identified in 1992 and demarcated in 1998 (770 ha) and is located in the municipalities of Matos Costa and North Plateau. Finally, approximately 20 families of Xokleng live on the outskirts of the cities of Blumenau, Joinville and Itajaí.

While the Xokleng of T.I. Rio dos Pardos have a history of intense contact with local society, working in hourly-paid jobs on neighboring farms or as maids in the municipalities of Calmon and Matos Costa, the Xokleng (of the Laklanõ faction) of T.I. Ibirama have survived until today as a more distinct group maintaining their ethnic autonomy. Various factors have contributed to this, including among others, the history of contact between agents of the Indigenous Protection Services (SPI, which predated FUNAI) and the Indians, the demarcation of land in the 1920s, the increase in population due to the arrival of some Kaingang from Paraná who married some Xokleng and the type of colonization in the upper and medium valley of the Itajaí River, where a type of “apartheid” was established which contributed to Xokleng autonomy within their lands.

However, such autonomy did not mean total isolation nor that the Xokleng traditional culture and livelihood has not changed. T.I. Ibirama has had multiple interethnic contacts. Kaingang and Guarani IP as well as *cafuzos* (descendants of Black and indigenous marriages) were introduced by SPI. Although interethnic marriages between Xokleng, Guarani and *cafuzos* were rare, weddings between Xokleng and Kaingang were more frequent and the number of mestizos notable. The presence of the Guarani and *cafuzos* diminished in the early 1990s, when approximately half of the Guarani migrated to the coast, and the *cafuzos* were resettled by INCRA on community lands in Rio Laiesz (municipality of José Boiteux).

Starting in the 1960s, economic factors contributed to increased contact with the national society. The T.I. Ibirama had abundant palm trees until the 1960s, but predatory extraction practices almost entirely destroyed them. This was followed in the 1970s by timber extraction (with the consent of FUNAI). By the mid-1980s, a significant number of the timber reserves were gone.

In the last decades, marriages between Xokleng and whites have become more frequent in T.I. Ibirama. The majority of Xokleng have converted to Pentecostalism since the 1950s and have reformulated their traditional beliefs and religious practices. Their current rituals are primarily attending the church, Assembly of God, which mobilizes a large portion of the community. The number of youngsters that speak Xokleng is also decreasing due in part to: (i) the presence of schools for IP with the same curriculum as the other public schools, with no incentives for maintenance of Xokleng culture; (ii) interethnic marriages; and (iii) the intensified contact with the national society. Most youngsters today only speak Portuguese.

The social, economic and political organization of the Xokleng in the T.I. Ibirama underwent an even bigger transformation during the 1970s with the construction of the North Barragem, a dam that embanked the Hercilio River at their southeast border, in order to avoid flooding of industrial cities in the low Itajaí valley such as Blumenau. The retention lake flooded almost 900 ha of their lower lands, and the Xokleng had to move to higher more densely forested areas. This led to the formation of five smaller villages each of which has its own political leadership although they select one leader to represent them to the outside world. Living in the hills has led to intensification of timber extraction, a decrease in horticulture and less productive hunting. Today the Xokleng practice swidden subsistence cultivation of corn and manioc often on sharply sloping hillsides, as well as minor cultivation of tobacco for sale. The Xokleng have requested but not yet fully received compensation for their lands lost to the flooding from dam construction.

Since the 1990s, observers have noted that the ethnic identity of the Xokleng has been undergoing a revitalization. This appears to be derived in part from the degradation of the natural resource base, their struggle for compensation and their request for a revision and expansion of the T.I. Ibirama, the study for which was carried out by FUNAI. Since only the Xokleng are viewed as eligible for compensation, it is notable that FUNAI’s most recent census has seen an increase in those identifying themselves as Xokleng and mestizo and a concomitant decrease of Kaingang. Internally, however, the Kaingang, mestizos, *cafuzos* and Guarani are well differentiated from the “pure Xokleng.” Since 1992, the learning of the Xokleng language has been incorporated in the T.I. Ibirama schools, and there is a movement for the development of a culturally appropriate curriculum. Adults are also increasingly speaking their native language. Despite restrictions from the Assembly of God, the Xokleng myths are resurfacing and are being taught to children.

Guarani IP

The Guaranis belong to the linguistic family Tupi-Guarani. In South America, there are four Guarani groups, of which three are present in Brazil: the Kayova, the Chiripá (or Ñandeva) and the Mbya, with a total population in

Brazil of about 35,000 individuals. While the Kayova are concentrated in the state of Mato Grosso do Sul, the Nandeva and the Mbya are located in the midwest, southeast and southern regions. The Mbya communities are the majority along the southern coast line, approximately 2,500 individuals (7% of the total Guarani population).

In the past they lived traditionally along the southern coastline of Brazil, between the state of São Paulo and of Rio Grande do Sul, the Plate Basin, to the shores of the Paraná River, part of the territory of Paraguay, Argentina, Uruguay and Bolivia. The Guarani practiced swidden horticulture and traditionally inhabited some of the best lands of the Southern Cone. Their livelihoods are forest based and they define themselves as "Forest Indians." The Guarani consider their territories as *tekoa* which must have appropriate natural resources for village life, horticulture and sufficient forests. The land is fundamental for the Guarani. According to one researcher (Melià, 1989), "The Guarani ecology is not limited to nature, nor is defined exclusively by productive values. The *tekoa* means to create simultaneously the economic, social relations and political-religious organization essential for the Guarani lifestyle." The *tekoa* is the place where conditions are met to create the *teko*, i.e., the Guarani culture, way of life, system, law, behavior and habit.

Their livelihood involves hunting, fishing, and swidden horticulture in the forest where they plant corn, manioc and smaller amounts of beans, peanuts, pumpkin, sweet potato, "*cará*" and tobacco for religious purposes. Many researchers emphasize that the migration and mobility of Guarani are intrinsic to their culture and adaptation to ecological conditions.

However, more recent studies of the Guarani in Santa Catarina emphasize the lack of adequate land and forest natural resources due to the destruction of the Atlantic Forests. Hence, Guarani can no longer follow traditional migration patterns and livelihoods. Today the Guarani are often found migrating in small groups on the roads and highways in search of land and selling their handicrafts. Today, more often than not, they are subject to malnutrition, illnesses, poverty, dependency, alcoholism, depression, psychological and social stress, serious identity crises among the younger generation, homicides and car accidents.

In Santa Catarina, their presence can be observed from the east coast to the west of the state. However, despite the fact that Santa Catarina encompasses one of the largest areas of traditional Guarani territory, today it has the smaller number of indigenous lands for them. Currently, on the south coast there are two areas that have a population of approximately 200 individuals: the T.I. Mbiguaçu (68 ha), with a population of about 85 (located in the municipality of Biguaçu), and T.I. Tekoá Marangatu (80 ha), with a population of about 70 (located in the municipality of Imarú). Two other lands have been identified and are currently being demarcated: T.I. Massiambu (5 ha), with 52 people in the municipality of Palhoça, and T.I. Morro dos Cavalos (122 ha), with a population of about 110 where the demarcation began in October 2001. Besides these four indigenous lands, there are at least 20 other locations in the state where Guarani live.

The Guarani in the indigenous lands consider that the land and forest resources are insufficient for their livelihoods. Hence, the majority of Guarani in Santa Catarina find themselves in situations of dire poverty. Illnesses, malnourishment and alcoholism have drastically reduced their population. The commercialization of crafts and a more sedentary horticulture have become their main livelihoods. Despite this situation, today after 500 years of intense and devastating contact with the non-Indian society, the Guarani continue to speak their native language within their villages (all the Mbya-Guarani, approximately 7,000 in Brazil, are speakers of their native language), thus continuing to preserve their traditional culture and religious practices.

Indigenous Access to the Project Activities by Components

As described in more detail in the project document (Section C.3, Appendix 1 of Annex 2 and Annex 11), the project will target municipalities and microcatchments using social and environmental criteria. The presence of IP is a weighted criteria, and hence, the project expects to reach at least 70% of the IP in the state. In general, and due to its highly participatory approach, the project expects that indigenous areas will form microcatchment areas with their own decision-making body and that the Microcatchment Development Plan to be developed will be specifically suited to the realities of the indigenous area, including, among others, socio-cultural and other considerations as this area/land is not private property and natural resource management must conform to guidelines in existing legislation such as the Estatuto do Índio. The project has already allocated resources to ensure that there will be 6-8 facilitators

specifically prepared and capable of working with indigenous populations and that in the case of the scattered small groups of Guarani that such facilitators would cover more than one microcatchment area.

With respect to Component 1, Institutional Development and Organization, project resources pertinent to IP will be available to support a variety of types of training, both to implementers and beneficiaries (Sub-component 1.1); environmental education activities (Sub-component 1.2), rural extension to promote the project and assist group formation and microcatchment planning as well as training project personnel (Sub-component 1.3); and adaptive and social research and studies to carry out diagnostics or develop specialized technologies (Sub-component 1.4). While some of this component's activities have been predetermined, financing will also be made available for demand-driven activities proposed by beneficiaries including IP. Examples of what could be financed with respect to IP include, e.g., participatory diagnostic studies, formulation of specific indigenous Microcatchment Development Plans (for more details see "Indigenous Participation" below), development of cultural archives and local histories; and environmental educational programs with young people.

Component 2, Rural Investment, will provide grants for demand-driven community, group and family sub-projects as identified in the Microcatchment Development Plan, in the following areas: (i) environmentally sustainable production activities (e.g., improving agricultural techniques, improving water management); (ii) living conditions (e.g., improving dwellings and basic sanitation); and (iii) income generation (e.g., supporting agricultural and non-agricultural enterprises, e.g., honey or handicrafts). This component also provides support for technical assistance. The project will also act as a catalyst for other federal (such as PRONAF), state and/or municipal programs in support of sustainable watershed development. To that end, it is designed to facilitate access of the project beneficiaries to resources available under these programs, so as to finance aspects of the Microcatchment Development Plan not eligible for financing under the project.

Through Component 4, Project Management, Monitoring and Evaluation, support would be available from: (i) Sub-component 4.1 for a social scientist to coordinate indigenous activities in the project implementation unit; (ii) Sub-component 4.2 for local-level monitoring and evaluation activities; and (iii) Sub-component 4.3, Local Participatory Management, for activities such as strengthening indigenous organizations.

Legal Issues

The Brazilian Constitution of 1988 marked a departure point from previous integrationist policies and provides a firm basis for the recognition by the nation-state of the perpetual usufruct rights of IP in Brazil to their territories, excluding sub-soil rights. The regularization of indigenous lands in Brazil is comprised of a multi-staged process led by FUNAI to identify and delimit, demarcate, register and homologate indigenous lands. The process of land regularization is further regulated by Decree 1775, adopted in 1996 which replaced Decree 22. It is important to observe that in recent years significantly more progress on regularizing indigenous lands in the Amazon region has been accomplished than in southern Brazil, in part related to the greater challenges faced in southern Brazil, including, among others, greater non-Indian population densities, competing land claims and conflicts and compensation issues. Nonetheless, as stated previously, the Xokleng T.I. Ibirama is currently being revised, and the regularization of several Guarani areas are also underway (see Table A).

Decree 1141, adopted in 1994, authorizes FUNAI, in conjunction with the Ministry of Environment, to carry out environmental activities including, among others, environmental diagnostics, recuperation of degraded areas, environmental enforcement, environmental education and identification and dissemination of environmentally appropriate technologies, although FUNAI's capabilities to fulfill these functions is highly constrained.

The 1973 Indian Statute, currently being revised, defines IP as being in tutelage, essentially minors under the law. It also provides a series of guidelines about natural resource use in indigenous lands, including, for example, regulations pertaining to third-party natural resource use concessions. Such guidelines are not always adhered to. For the past ten years, there has been considerable debate in Brazil to pass a revised Indian Statute and an attempt was made to adopt the new Statute in 2000 to mark the 500 year anniversary. Due to a lack of consensus on the draft legislation by indigenous organizations, the statute was not adopted in 2000 but has continued to be debated. Characteristics of the proposed legislation include an end to the status of tutelage and improved natural resource guidelines.

Institutional Arrangements

The SDA, via EPAGRI, is the main government entity responsible for project execution with respect to extension, training and technical assistance in relation to sustainable development of microcatchments, improving natural resource management and income generation (Components 1, 2 and 4). The SDM, via FATMA, is primarily responsible for execution of Component 3, Environmental Management.

EPAGRI's experience to date with IP has been limited, primarily seed distribution and the provision of some technical assistance and training for apiculture activities under PRONAF (National Smallholders Agricultural Program), but they are committed to the mutual learning experience necessary to expand activities under the project. Given the considerable flexibility in this "process project," EPAGRI expects to proceed by establishing partnerships directly with IP and with other governmental and non-governmental entities and organizations with more experience, as described below. Furthermore, the selection and specialized training of EPAGRI project facilitators who will work with IP will be done in conjunction with each indigenous group, and new methods such as training local assistants will be explored. It has also been agreed that a social scientist (anthropologist) to coordinate and closely monitor and supervise actions with respect to IP will be included in the overall project implementation unit (Secretaria Executiva Estadual, SEE) as well as resources for consultancies with specialized anthropologists (see Annex 12, Project Management Structure). In addition, and to ensure proper assistance to IP communities, the project has already allocated resources to ensure that there will be 6-8 facilitators specifically prepared and capable of working with indigenous populations and that in the case of the scattered small groups of Guarani that such facilitators would cover more than one microcatchment area.

Given that it was agreed in consultation with each indigenous group that specific mechanisms and arrangements for working with them would be further discussed and agreed with them and would be customized for each ethnicity, what are described here are principles that will guide the project implementation with respect to IP.

FUNAI provides some oversight and services for IP in the state (one regional administrative office in Chapeco, and one support station in Palhoca which is linked to the FUNAI regional administrative office in Curitiba, Paraná), albeit limited, and FUNAI already has good working relationships with the decentralized services for health and education which are carried out by FUNASA (National Health Foundation) and the Nucleus for Indigenous Education of the State Secretariat for Health and Sports (SED) respectively. FUNASA, with almost two years experience in Santa Catarina, was observed by indigenous representatives to be quite successful, and the state's education program for the last decade is also viewed favorably. FUNASA's approach of Local Councils and formation of a network of local health agents provides a pertinent participatory model for the project as does the education initiatives of schools, local teacher training, school associations and local councils.

The project preparation team met with FUNAI, FUNASA and SED, and the three entities have agreed to collaborate in facilitating the project, coordinating actions and activities and building upon existing initiatives wherever possible. A Cooperation Agreement will be signed between SDA and FUNAI at the latest, one year after Loan Effectiveness. Cooperation with the other two institutions will be ensure under existing arrangements for the sectors of education and health respectively.

In addition, there is a new State IPs Council (CEPIN/SC) created by Law 11,266 on December 16, 1999 and designed to articulate activities relating to IP in the State. It is comprised of 24 members: six from government (State Secretariats of Justice, Rural Development and Agriculture (SDA), Education and Sports (SED), Social Development and the Family, Urban Development and Environment and Health); six from NGOs; and 12 indigenous representatives (four from each of the three ethnicities). However, as this council is still in its early stages and not functioning fully effective yet, it is not expected to have a specific role under the project. However, and to ensure proper coordination with existing bodies, the project will be formally presented to CEPIN/SC in the immediate future.

During project preparation, contact and collaboration was carried out with specialists (particularly with the Federal University of Santa Catarina and the University Museum and the Nucleus for Studies of Indigenous Populations) as well as with non-governmental organizations, in particular the Catholic affiliated CIMI (Indigenist Missionary Council) and CAPI (Commission for Support to Indigenous Populations); the project will continue to draw expertise and support from the aforementioned, on a case by case basis as appropriate, as well as other NGOs existing in the

State.

Finally, it was verified that the majority of indigenous communities have one or more type of community association for possible implementation of project activities, in particular the Microcatchment Development Plans for indigenous areas. Among the Kaingang, nine indigenous organizations were cited one of which is a cooperative. Among the Xokleng, they cited five associations, one for each village, and the proposal to form one for the entire group; and the Guarani cited the existence of three associations with others in formation. The project will need to carry out a careful evaluation of the existing local organizations particularly with respect to their relationship to indigenous and non-Indian political structures, representativeness, legalization of entities, capabilities and other dimensions.

Indigenous Participation in the Project

Participation during preparation. This Indigenous Peoples Strategy was developed to respond to the World Bank Operational Directive 4.20 and with the objective of maximizing effective indigenous participation in the project. Hence, the project preparation team worked closely with representatives of the University Museum (Ethnology Unit of the UFSC), the university (UFSC), FUNAI, CIMI (*Conselho Indigenista Missionário*) and other indigenist NGOs to identify how the project might best address key concerns of the indigenous communities in Santa Catarina. Consultations were carried out in 1998 for a preliminary diagnostic and resumed again starting in September 2001 after a gap of approximately two years during which the project was temporarily tabled. In November 2001, the aforementioned representatives were again consulted, as well as a representative of the new State Indigenous Council (CEPIN), on the preliminary draft of the indigenous strategy. In January 2002, three consultations with leaders and indigenous representatives of the three ethnicities were held with approximately 140 individuals (30 Guarani, 32 Kaingang and 80 Xokleng) and follow-up meetings are already scheduled (over the next several months).

Indigenous Concerns and Needs. All three indigenous groups identified the following as their main concerns and needs: (i) land tenure issues (particularly for certain areas); (ii) lack of appropriate livelihood systems and hence the need to improve subsistence agriculture; (iii) the need to develop income generation activities; (iv) the need for technical assistance in agricultural production, administration and management, recuperation and preservation of natural resources; (v) the need for improving housing and sanitation; and (vi) ensuring appropriate mechanisms for indigenous representation in public spheres both in general and for the project. The indigenous leaders are also seeking to increase their role in public spheres outside their areas (as amply demonstrated by Kaingang involvement in municipal politics) and are sensitized to their need to confront and work with local power structures which are often discriminatory against IP. The communities also demonstrate a concern with the revitalization of their ethnic identities. They expressed a strong interest in technical assistance and investments that would help guarantee their self sufficiency and sustainability within their areas and decrease the need to work as rural wage laborers. During the consultations, it was clarified with stakeholders that the project is designed to assist directly with all of the aforementioned concerns except for land regularization which is in the federal domain, although it will facilitate land questions as much as possible.

Indigenous Participation in the Project. The project is designed to guarantee the interactive participation of diverse stakeholders, including IPs, in the processes of planning, management, execution, monitoring and evaluation of actions by means of forums at different levels of decision-making. The project considers that the participation of IP will signify a mutual learning process on the part of both technical personnel and the IP. It is further emphasized that by no means are the IP of Santa Catarina homogeneous and that appropriate processes and methodologies will need to be developed with respect to each ethnicity. Principles that will be followed in the project will be to minimize intermediaries between the IP and flow of investment resources, maximization of local decision-making and to use existing local organizations and mechanisms as much as possible.

The project organizational structure includes: a Microcatchment Association (or its equivalent) at the level of each microcatchment area (or indigenous area), Municipal Deliberative Committees (CCM), Regional Deliberative Committees (CCR) and a State Deliberative Committee (CCE). The Microcatchment Association is 100% beneficiaries, whereas the municipal, regional and state deliberative committees are equally divided between representatives of the executing agencies and beneficiaries. It was agreed that when IP are present in an area, their representation on the municipal and regional commissions will be assured. One indigenous representative will be

selected for the project's CCE.

Diagnostic, planning, formulation of the Microcatchment Development Plan and, subsequently, specific community, group and family sub-projects, implementation and monitoring are expected to be local level responsibilities attributable to the MA or its equivalent for IP. The MDP is a document that will be developed by the local community in the following manner. A local animating group works together with the project facilitator to carry out first dissemination and then diagnostic meetings that will provide local people with basic socioeconomic and environmental data (from the census and other sources) and permit an ample discussion and prioritization of local social, economic and environmental problems. The facilitator will use visual methods (e.g., color coding, etc.) to identify the urgency and expected outcomes of identified problems.

Based on the community generated diagnosis, various alternatives and solutions to problems are discussed and identified in community meetings. Based on these alternatives, priority activities and actions are identified in the social, economic and environmental areas. For each priority action, the proposed solution, necessary steps, those responsible and timing is identified and included in the MDP. The Plan also includes a basic map, identification of the animators and association leadership and a budget.

The review and approval of the MDP will be done respectively by the MA, municipal and regional deliberative committees. It is important to note that the goal of the Microcatchment Plan is to formulate a plan "owned" by the local population. It is a flexible document which can also be used to monitor problems and actions, and can be updated and revised periodically.

Based on the specific MDP, the community, groups and families may develop activities for project financing in the areas of environmental education, training, organizational strengthening and others under Components 1 and 4 as described previously. They can also develop sub-projects proposals for grant financing from Component 2, Investment Fund. Review and approval of sub-projects will be done for smaller projects by the Municipal Deliberative Committee; larger ones, by the Regional Deliberative Committee; and largest ones, by the State Deliberative Committee (thresholds specified in the project document and in the Project Operational Manual). Special care will be taken to ensure that commissions considering indigenous sub-projects have sufficient indigenous representation; if not, special arrangements to move review and approval to the state level will be considered.

The execution and administration of local projects will be carried out by the MA or its equivalent for IP, as well as by groups and families. Monitoring and evaluation is discussed below.

Monitoring and Evaluation

The indigenous MDPs and related sub-projects will be monitored and evaluated by a participatory process--by the beneficiaries and the facilitator. Simultaneously, there will be physical and financial monitoring as well as monitoring of results. Persons and organizations implementing activities will be trained in basic monitoring and evaluation techniques (see more details in Annex 2, Monitoring and Evaluation Sub-component).

Based on local-level monitoring, facilitators will produce quarterly implementation reports for the overall project implementation unit which will also be reviewed by the aforementioned indigenous specialist, who will be affiliated to the PMU (SEE). It has also been agreed that an independent evaluation of activities in indigenous areas will be carried out prior to the project's mid-term evaluation scheduled for the third year.

Project monitoring and evaluation will include the following:

(i) **Implementation:** Evaluation of established structures and processes, to ensure they are adequate for the targets and timetables planned by indigenous communities, including suggestions for modifications or adaptations to improve activities. Evaluations will be based on community-level monitoring and facilitators' reports, as well as field visits as needed.

(ii) **Financial:** There will be monitoring of financial resource flow and financial management of project resources, ensuring adherence to project norms. Special training to assist in the administration and management of financial

resources will be provided.

(iii) Participation: There will be continuous monitoring of indigenous participation in the different levels of project decision-making forums, and the possibility to propose modifications as needed.

(iv) Technical Personnel: There will be careful monitoring of technical staff (facilitators, extensionists) working with IP.

Table A Status of Indigenous Lands of Santa Catarina

Land	Group	Situation	Encompassed Municipalities	Area (hectares)	Estimated Population
Cachoeira dos Inácios - Marangatu	Guarani M'bya	Unknown	Imaruí	78	90
Cambirela	Guarani Ñandeva	Pending	Palhoça	Undefined	15 (9)
Morro Alto - Laranjeiras	Guarani M'bya	Pending	Araquari	Undefined	45
Massiambu	Guarani M'bya	Pending	Palhoça	4.06	66
M'biguaçu	Guarani Ñandeva e M'bya	Pending	Biguaçu	50	86
Morro dos Cavalos	Guarani	Pending	Palhoça	120	92
Pindoty	Guarani M'bya	Pending	Araquari	Undefined	30
Corveta	Guarani M'bya	In identification	Araquari	Part of Pindoty	27
Gravatá	Guarani Mbyá	In identification	Navegantes	Part of Pindoty	6
Rio Inferninho	Guarani Mbyá	In identification	Araquari	Part of Pindoty	22
Pirai	Guarani M'bya	In identification	Araquari	Undefined	17
Toldo Pinhal	Kaingang	Homologated	Seara	880.07	117
La Klãnõ	Xokleng/ Guarani	Registered	Doutor Pedrinho, Itaiópolis, José Boiteux & Vitor Meireles	14,084.88	1,650
Aldeia Condá	Kaingang	Identified	Chapecó	2,300.23	257 a 276
Araçai	Guarani	Identified	Cunha Porã e Saudades	1,728.23	99
Rio dos Pardos	Xokleng	Demarcated	Porto União	758.26	50
Toldo Imbu	Kaingang	Identified	Abelardo Luz	2,210.86	173
Toldo Chimbanguê	Kaingang	Homologated	Chapecó	988.66	294
Toldo	Kaingang/	Identified	Chapecó	968.57	45

Land	Group	Situation	Encompassed Municipalities	Area (hectares)	Estimated Population
Chimbandue I	Guarani				
Xapecó	Kaingang/ Guarani	Homologated	Ipaçu & Entre Rios	15,623.95	3,485

Source: FUNAI.

MAP SECTION

