

Cost of the Project

The Project's total cost of US\$22,21 million is supported by a Global Environmental Facility (GEF) grant, in the amount of US\$4,77 million, and a counterpart contribution of US\$17,44 million, from the Brazilian Government. The GEF funds are distributed as follows:

GEF Contribution

Components	US\$ million
I. River Basin and Coastal	
Zone Environmental Analysis	0,99
II. Public and	
Stakeholder Participation	0,52
III. Organizational	
Structure Development	0,45
IV. Watershed Management	
Program Formulation	2,12
• Coordination, Monitoring, and Evaluation	0,69
TOTAL	4,77

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Integrated Management of Land-Based Activities in the San Francisco Basin Project

ANA

Agência Nacional de Águas

GEF

Global Environment Facility

UNEP

United Nations Environment Programme

OAS

Organization of American States



Brazil



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ANA / GEF / OAS / UNEP

The São Francisco Basin

The São Francisco Basin, which covers an area of 640.000 km², 7.5% of the national territory, lies between the 7° and the 21° S latitude and the 36° and the 46°W longitude.



Geographically, the Valley is traditionally divided into four Subregions: the **Upper São Francisco**, from its source in the Canastra Mountains, in the State of Minas Gerais, to its confluence with the rio das Velhas; the **Middle São Francisco**, from the mouth of the rio das Velhas to the city of Remanso, on the shore of the artificial lake of the Sobradinho Dam, in the State of Bahia; the **Lower-Middle São Francisco**, from Remanso to the Paulo Afonso Dam; and the **Lower São Francisco**, between Paulo Afonso and the Atlantic Ocean.



With an extension of 2,700 km, the San Francisco River has a 1,670 km long navigable reach, with a 1,312 km continuous stretch, linking the City of Pirapora, in the State of Minas Gerais, to Juazeiro and Petrolina, twin cities in the border of the States of Bahia and Pernambuco. Of the 36 main tributaries, which constitute the back-bone of the San Francisco watershed, only 19 are perennial. The most important tributaries are the Paracatu river (with an 80 km navigable reach), the Urucuia, the Carinhanha, the Corrente (navigable in 155 km) and the Grande (navigable in 351 km), to the left margin, and the Paraopeba river, the Velhas and the Verde Grande, none of these navigable, to the right margin.

The São Francisco passes through all the agroclimatic zones characteristic of Northeastern Brazil: the *Zona da Mata*, adjacent to the coast, where, due to the heavy rainfalls, given the influence of the Atlantic, water shortage lasts for less than five consecutive months in the year; the *Sertão*, which has distinct arid and semi-arid areas and water deficits persist for nine months of the year; the *Agreste*, a semi-humid zone, where shortages exist for seven to eight months of the year; and the *Cerrados*, where rainfall regime is equivalent to that of the coastal zone.

The population of the São Francisco Basin is estimated at 15 million inhabitants, almost 10% of the Brazilian population. Urbanization is increasing, the level of illiteracy for the younger than 15 years old population is around 50% and only 10% of families have incomes higher than the minimum wage. Dependency on water for human and livestock consumption and crop production is the main reason for the underdevelopment and poverty in the region.

The GEF São Francisco Project

Carried out with the participation of ANA, OAS and UNEP, in cooperation with the State Governments of Minas Gerais, Bahia, Pernambuco, Alagoas and Sergipe, jointly with public enterprises, universities and various civil society organizations, the Integrated Management of Land-Based Activities in the São Francisco Basin Project, known as the GEF São Francisco Project, has the objective of contributing to the sustainable development of the Basin and its adjacent coastal zone. This contribution includes financial aid and technical support necessary for the implementation of actions and strategies to enhance the effectiveness of an integrated water resources management model for the São Francisco Basin.

PROJECT COMPONENTS AND ACTIVITIES

I - River Basin and Coastal Zone Environmental Analysis

Component I comprises the river basin and coastal zone diagnostic study. Its objective is to provide a sound scientific and technical basis for the strategic remedial actions for the protection of the marine environment from land-based activities identified during the Watershed Management Program formulation process.

Activities include:

- Quantification of priority issues identified during the PDF phase, thereby updating and consolidating older data, and providing for the forecasting of potential future scenarios within the linked land, water, and marine system.
- Identification and quantification of the extent to which land-based activities and river regulation in the Rio São Francisco influence hydrology, water quality (especially, sediment and nutrient transport), and fisheries and aquatic ecology throughout the system and, especially, at the coastal zone in the vicinity of its estuary.
- Identification and assessment of the most probable reasons for changes in river morphology and in aquatic faunal community composition and distribution, necessary to determine the root causes of these changes.

- Provide the quantitative basis for the determination of strategic actions to optimize the multi-purpose utilization of the water resources of the basin and the protection and restoration of the coastal zone ecosystems, currently adversely affected by land-based activities.

II - Public and Stakeholder Participation

The objective of this Component is to provide for the practical, hands-on type involvement of communities in the identification and field testing of remedial measures, as well as the establishment of a dialogue process between persons and agencies having economic interests in the basin. Actions formulated through this process will have the advantage of benefiting from community insights and experiences, and of being acceptable by the communities as economically and environmentally sustainable alternatives to presently destructive practices.

Activities include:

- mapping at an appropriate scale to determine land ownership and condition, and a framework for establishing a water use allocation system;
- identification of and establishment of coordination among persons and agencies having commercial or institutional responsibilities within the basin, including fisheries, navigation, mining and agro-industrial activities, as well as the public sector, at all levels of government;
- demonstration of sustainable agricultural and irrigation management measures for the implementation of sound



soil and water management techniques, appropriate utilization of agro-chemicals, improved methods of crop management, irrigation design and maintenance of infrastructure, such as roads and irrigation ditches; and,

- creation of community-based information and training programs, at all levels, providing technical and administrative support for the implementation of community land and watershed management programs.

III - Organizational Structure Development

The objective of this Component is to strengthen and improve institutional and staffing capabilities to implement new laws, regulations, and procedures identified during the PDF Activities. Such strengthening will contribute to the long-term success of the activities recommended in the Watershed Management Programs.

Activities include:

- an evaluation of the efficacy of several policy instruments for implementing the water law and related state legislation;
- pilot scale implementation, in order to relate measured improvements to both the rate of water use and the degree of protection of downstream water quality; and,
- development of a framework for implementing the law in other sub-basins.

IV - Watershed Management Program Formulation

The objective of Component IV is the consolidation of data and experiences, from feasibility assessments and cost analyses carried out in the three preceding components. Included in the main activities herewith, there are four elements that address the basis for the legal, institutional and human and natural resources, which are fundamental for implementing the mitigatory actions identified throughout the WMP process. Its purpose is to foster a cooperative elaboration of a comprehensive WMP, based on a multi-sectorial and holistic approach to environmental management and economic development of the Basin and of its coastal zone.