

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BRAZIL

FEDERAL UNIVERSITIES DEVELOPMENT PROGRAM

(BR-0184)

LOAN PROPOSAL

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BRAZIL

FEDERATIVE REPUBLIC OF BRAZIL

FEDERAL UNIVERSITIES DEVELOPMENT PROGRAM

(BR-0184)

LOAN PROPOSAL

C O N T E N T S

Basic Socioeconomic Data

Loan Proposal

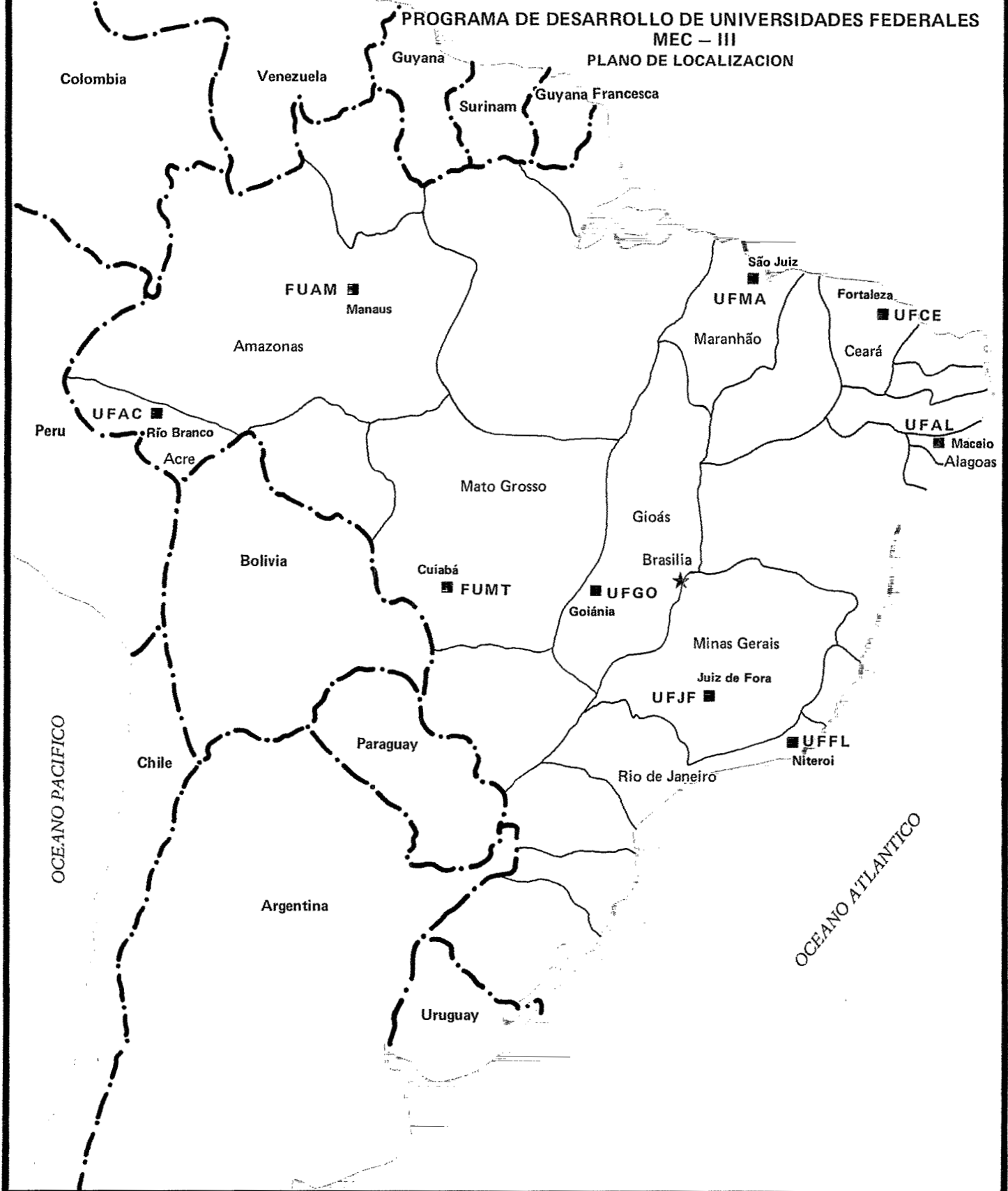
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BRASIL

PROGRAMA DE DESARROLLO DE UNIVERSIDADES FEDERALES
MEC - III

PLANO DE LOCALIZACION



BRAZIL

Basic Socioeconomic Data

1. General

(Source: Country Studies and General Studies Divisions
based on official data)

Total population (thousands of inhabitants, 1980 estimate)	122,319.9
Rural population per cent (1980-estimated)	37.2
Land area (Km2)	8,511,965
Population per Km2 (1980)	14.5
Ratio of total agricultural area to population (Km2) (1975)	3.0
Population growth rate (1970-80)	2.5
Estimated per capita GDP in 1980 (measured in US\$ of 1980)	1,654
Low income level (IDB estimate, per capita, prices of February 1982)	Cr\$114,244
Mortality rate per 1,000 (1975-80)	9.3
Infant mortality rate per 1,000 live births (1976)	93
Physicians per 10,000 inhabitants (1977)	6.5
Number of hospital beds per 1,000 inhabitants (1978)	4.2
Literacy rate (1980 estimate)	75.3
School enrollment rate (per cent)	
Primary (1979)	90.0
Secondary	n.a.
Rate of exchange (1981 average per US\$)	93.02
(1982 selling rate in April)	155.61

Land distribution (1975 Preliminary):

Size Class (hectares)	Z Distribution			
	Number of Farms		Total Area	
	1970	1975	1970	1975
Less than 10	51.2	52.3	3.1	2.8
10 - 1,000	47.7	46.8	57.4	54.5
1,000 and above	1.1	0.9	39.5	42.7

Source: FIBGE

Per capita energy consumption KWH (1980 estimate) 1,012

Economically Active Population - EAP (1978):

(Source: FIBGE)

	In thousands	Z
<u>Agriculture</u>	14,455	33.7
<u>Secondary Sectors</u>	10,320	24.1
Manufacturing	6,611	15.4
Construction	3,082	7.2
Other industrial activities	627	1.5
<u>Tertiary Sectors</u>	17,068	39.8
Commerce	4,092	9.6
Services	7,176	16.7
Transportation and Communication	1,604	3.7
Social	2,743	6.4
Public Administration	1,453	3.4
<u>Other Activities</u>	1,017	2.4
<u>TOTAL</u>	42,860	100.0

Percentage of the EAP Unemployed in Major Metropolitan Areas,
(Source: FIBGE)

Average for the Year	Rio de Janeiro	Sao Paulo	Belo Horizonte	Porto Alegre
1980	7.5%	5.6%	7.3%	4.6%
1981	8.6%	7.3%	9.0%	5.8%

Distribution of Wage Income:

Percentage of Wage Income Received by:	Percentage of Wage Income		
	1960	1970	1980
The poorest 20% of the economically active population	3.9	3.4	2.8
The poorest 50% of the economically active population	17.4	14.9	12.6
The richest 10% of the economically active population	39.6	46.7	50.9
The richest 5% of the economically active population	28.3	34.1	37.9
The richest 1% of the economically active population	11.9	14.1	16.9

Source: FIBGE

2. National Accounts

Expenditure on GDP	Composition in Current Prices (%)			Real Annual Growth Rate (%)			
	1970	1974	1980	Average 1968-73	1974	Average 1978-80	1981 a/
Consumption	77.7	74.7	81.0 b/	9.8	7.5	8.0	
Gross Domestic investment	22.7	31.0	21.1	17.2	3.1	2.9	
Exports of goods and N.F.S.	6.5	7.7	8.6	18.5	-16.3	-0.3	
Imports of goods and N.F.S.	-6.9	-13.4	-10.7	19.0	28.3	4.5	
GDP at market prices	100.0	100.0	100.0	11.3	9.5	6.5	-3.5
GDP by Origin (at market prices)	100.0	100.0	100.0	11.3	9.5	6.5	-3.5
Agriculture	10.2	11.5	13.0	4.6	8.3	2.9	6.8
Mining	0.8	0.5	0.5	9.4	23.2	9.7	
Manufacture	26.7	29.4	26.6	12.9	7.8	7.1	
Electricity	2.4	2.2	1.1	16.1	12.2	11.5	
Construction	5.9	5.7	5.8	11.1	12.1	6.1	
Commerce	15.6	17.3	16.1	11.7	9.8	6.2	
Transportation	5.7	5.4	5.1	14.5	13.5	8.7	-6.0
Financial services	13.7	12.0	16.9	11.9	7.4	10.3	0.8
Other services	9.5	8.1	7.4	10.2	14.6	2.6	
Government	9.5	7.9	7.5	11.7	7.7	1.6	

a/ Preliminary.

b/ Personal Consumption in 1980 includes variation in stocks.

Source: Based on Getúlio Vargas Foundation data and IDB estimates.

3. External Trade
(Source: Central Bank)

	(in millions of US\$)					Annual Growth Rates (%)			
	1970	1974	1980	1981 a/	1982 b/	Average 1970-73	1974	Average 1978-80	1981 a/
<u>Exports of Goods (FOB)</u>	<u>2,738.9</u>	<u>7,951.0</u>	<u>20,132.4</u>	<u>23,293.0</u>	<u>24,040</u>	<u>28.0</u>	<u>28.3</u>	<u>18.4</u>	<u>15.7</u>
Coffee (beans and soluble)	981.8	980.4	2,772.9	1,760.6		10.1	-27.1	6.4	-36.5
Sugar products	126.5	1,262.0	1,277.9	1,288.3		48.1	128.2	0.7	-17.6
Iron ore	209.6	571.2	1,563.8	1,736.1		25.4	57.4	19.9	11.0
Soybeans and by-products c/	70.7	891.2	1,842.9	2,539.8		97.8	-5.3	0.0	37.8
Industrialized products d/	614.8	2,780.3	10,425.7	13,271.7		43.1	45.6	29.3	27.3
Other exports	735.5	1,465.9	2,238.8	2,923.1		15.2	20.9	5.7	30.6
<u>Imports of Goods (FOB)</u>	<u>2,506.9</u>	<u>12,641.3</u>	<u>22,955.0</u>	<u>22,079.8</u>	<u>22,500</u>	<u>32.8</u>	<u>104.1</u>	<u>24.1</u>	<u>-3.8</u>
Cereals	111.8	468.4	1,238.8	1,077.4		24.9	33.9	64.2	-18.7
Machines and equipment	907.7	3,119.1	4,392.2	4,012.9		31.7	45.6	12.3	-8.4
Petroleum and derivatives	236.1	2,840.1	9,848.7	10,986.2		39.4	299.6	37.2	11.6
Other imports	1,251.3	6,196.0	7,475.3	6,003.3		33.1	85.6	15.7	-19.8
<u>Imports of Goods (CIF) e/</u>	<u>2,849.0</u>	<u>13,592.0</u>	<u>23,433.5</u>	<u>19,640.5</u>		<u>32.6</u>	<u>102.4</u>	<u>4.2</u>	<u>-16.2</u>

a/ Preliminary.

b/ Estimates of CACEX prepared in March 1982.

c/ The soybean group includes: grain, soybean cake and bran but excludes unprocessed oil which is included in industrialized products.

d/ Industrialized products include both semi-manufactured items (except crystal sugar) and manufactured items (except soluble refined sugar).

e/ CIF imports are derived from IMF data and non-official sources.

4. Balance of Payments

(in millions of US\$)

Growth Rate (%)

	<u>1973</u>	<u>1974</u>	<u>1979</u>	<u>1980</u>	<u>1981 a/</u>	<u>1974</u>	<u>Average 1977-79</u>	<u>1980</u>	<u>1981 a/</u>
<u>Trade Balance</u>	<u>7</u>	<u>-4,690</u>	<u>-2,840</u>	<u>-2,823</u>	<u>1,213</u>				
Exports	6,199	7,951	15,244	20,132	23,293	28.2	14.6	32.1	15.7
Imports	-6,192	-12,641	-18,084	-22,955	-22,080	104.2	13.5	26.9	-3.8
<u>Total Services (net)</u>	<u>-1,722</u>	<u>-2,433</u>	<u>-7,199</u>	<u>-9,741</u>	<u>-13,127</u>	<u>-41.3</u>	<u>-24.1</u>	<u>-35.3</u>	<u>-23.2</u>
Non-factor payments	-988	-1,516	-2,378	-3,430	-2,808	-53.4	-15.5	-13.8	3.8
Factor payments <u>b/</u>	-734	-917	-4,821	-6,311	-10,319	-24.9	-32.2	-50.8	-37.9
<u>Transfers (net)</u>	<u>27</u>	<u>1</u>	<u>18</u>	<u>168</u>	<u>187</u>				
<u>Current Account Balance</u>	<u>-1,688</u>	<u>-7,122</u>	<u>-10,021</u>	<u>-12,396</u>	<u>-11,717</u>				
<u>Net Capital Movements</u>	<u>3,512</u>	<u>6,254</u>	<u>6,936</u>	<u>9,268</u>	<u>12,917</u>				
Investments (net)	940	877	1,491	1,121	2,310				
Foreign Loans and Financing	2,572	5,367	5,445	13,157	18,496				
Medium and long term	2,186	4,971	4,758	10,596	15,632				
-disbursements	(3,206)	(6,891)	(11,143)	(15,606)	(23,341)				
-amortizations	(-1,020)	(-1,920)	(-6,385)	(-5,010)	(-7,709)				
Short term (net)	-197	464	848	-	-				
Other (net)	-54	-68	-161	2,561 <u>c/</u>	2,684 <u>c/</u>				
<u>Errors and Omissions</u>	<u>355</u>	<u>-68</u>	<u>-130</u>	<u>-344</u>	<u>-587</u>				
<u>Surplus (+) or Deficit (-)</u>	<u>2,179</u>	<u>936</u>	<u>-3,215</u>	<u>-3,472</u>	<u>622</u>				

a/ Preliminary.

b/ Net interest payments only; excludes profit remittances.

c/ Sum of short-term and other capital flows net.

Source: Central Bank of Brazil.

5. Consolidated Accounts of the Federal Public Sector

		Cr\$ billions			
		1979	1980	1981 a/	1982 a/
A. Federal Budget					
1.	Budgetary revenue	509.8	1,209.4	2,391.2	4,000.2
2.	Transfers	153.2	695.1	1,209.0	1,896.8
2.1	Monetary budget	(14.3)	(287.7)	(255.0)	(386.1)
2.2	Charges on the public debt	(3.7)	(36.2)	(37.5)	(54.1)
2.3	State enterprises	(135.2)	(380.2)	(916.5)	(1,456.6)
3.	Net federal expenditure (1 - 2)	356.2	524.3	1,110.2	2,103.4
B. Monetary Budget					
1.	Revenue	-60.7	284.5	584.2	546.1
1.1	Transfers from Federal Government	(14.3)	(278.7)	(214.5)	(386.1)
1.2	Net balance of the public debt	(-74.9)	(5.8)	(369.7)	(160.0)
2.	Expenditure (subsidies)	181.9	896.4	1,303.2	837.6
	Deficit: (2 - 1)	242.6	611.9	719.0	291.5
C. Budget of the State Enterprises (excluding banks)					
1.	Revenue	1,191.5	2,768.9	6,281.3	11,744.9
1.1	Generated by the enterprises	(1,056.3)	(2,388.7)	(5,364.8)	(10,288.3)
1.2	Received from the Federal Budget	(135.2)	(380.2)	(916.5)	(1,456.6)
2.	Expenditures (excluding amortizations)	1,397.8	3,354.9	7,204.5	13,390.2
3.	Deficit: (2 - 1)	206.3	586.0	923.2	1,645.3
D.	Global Deficit (B.3 + C.3)	448.9	1,197.9	1,642.2	1,936.8
E. Ratios to Current GDP					
1.	Budgetary revenue	8.8	9.7	8.3	7.4
2.	Global deficit	8.1	7.3	5.9	3.6
3.	Net federal expenditure (excludes transfers)	6.2	4.2	3.5	3.9
4.	State enterprise expenditure	25.6	28.3	27.7	26.2
5.	Monetary budget expenditure	3.2	7.2	4.7	1.6
6.	Total public sector expenditure (3+4+5)	34.9	39.7	35.9	31.7

a/ Estimates.

Source: Getulio Vargas Foundation, Conjuntura Económica, February 1982.

6. Money and Credit

(Billions of Cruzeiros at December 31)

Growth Rate (%)

	1974	1978	1979	1980	1981	1974	1978	1979	1980
Net International Assets	23.8	77.9	-10.0	-494.3	-1,3981.8 c/	-22.4	254.1	-112.8	-4,843.0
Monetary authorities	39.0	197.6	255.8	81.5	7.6 c/				
Commercial banks	-15.0	-123.7	-265.8	-575.8	-1,399.4 c/				
Domestic Credit a/	386.1	2,108.9	3,708.7	6,507.9	13,578.9 c/	55.2	48.0	75.9	75.5
Public sector a/	14.7	66.6	254.8	490.0	1,201.4 c/	45.7	72.5	282.6	92.3
Private sector	371.4	2,042.3	3,453.9	6,017.9	12,377.5 d/	55.6	47.1	69.1	74.2
Money Supply	120.8	462.7	803.1	1,367.0	2,355.3 d/	33.6	42.3	73.6	70.2
(% of GDP)	(17.4)	(10.7)	(13.9)	(10.9)					
Quasi-Money c/	133.6	610.5	965.6	1,541.4	2,446.4 c/	30.2	43.1	58.2	59.6
(% of GDP)	18.0	(17.5)	(16.7)	(12.3)					

a/ Includes lending by the monetary authorities to the public sector and by the commercial banks to the non-financial public sector. Lending to the public sector is excluded.

b/ M-2 as defined by the Central Bank and published in conjuntura Econômica.

c/ Preliminary data through November.

d/ Preliminary for 1981.

e/ November 1981 compared with November 1980.

7. Prices

Average
1970-73

Average
1977-79

(rate of increase)	1974	1980	1981
GDP deflator	18.4	31.5	46.4
General Price Index a/ (Domestic Supply; 1977 = 100)	18.4	28.7	51.2
National Consumer Price Index b/ (INPC)	-	-	-
		95.6	91.2

a/ Increase in 12 months.

b/ Initiated in March 1979.

Source: Getúlio Vargas Foundation and estimates of the of Country Studies Division.

8. External Public Debt Payable in Foreign Currency (with public guarantee)	Contracted at Year-End						Disbursed as % of Total, 1979
	1970	1974	1977	1978	1979	1980	
	(millions of US\$)						
Total (including undisbursed)	4,680	13,750	29,723	40,242	47,522	52,301	73.8
By type of Creditor (including undisbursed)							
Suppliers	644	1,413	3,271	3,991	5,013	4,755	37.9
Financial institutions	1,201	6,727	16,547	23,765	28,625	n/a.	84.9
Bonds	-	170	1,217	2,375	2,944	n/a.	100.0
Nationalization	200	172	215	201	187	n/a.	100.0
Multilateral agencies	932	2,430	4,172	5,058	5,740	6,634	48.0
Bilateral (Governments)	1,703	2,838	4,301	4,852	5,013	5,388	60.8

Source: IBRD External Debt Division (excludes private debt without public guarantee).

Total External Debt	1970	1974	Average 1976-78	1979	1980	1981 a/
(Disbursed at year-end; includes public and private debt in US\$ millions)	5,295	17,166	33,844	49,904	53,847	61,400

a/ Preliminary.

Source: Central Bank of Brazil.

Maturity Structure of the Total External Debt (public and private)	1970	1974	Average 1976-78	1979	1980
One to two years	26	11	13	13	14
Two to five years	35	46	55	47	44
More than five years	39	43	32	40	42
	100	100	100	100	100

Source: Central Bank of Brazil.

Debt Service (in US\$ millions)	1970	1974	Average 1976-78	1979	1980	1981 a/
a. Public and Publicly Guaranteed Debt (Debt Service as % of exports of Goods & N.F.S.) b/	386.8 (12.6)	1,210.2 (13.8)	3,091.0 (24.1)	6,410.2 (35.5)	8,066.1 (34.5)	9,548.3 a/ 40.6 e/
b. Total Disbursed Debt (including debt without guarantee) c/	1,476.0	2,595.0	6,387.3	10,713.0	13,013.0	16,400.0 d/
(Debt Service as % of exports of Goods & N.F.S.)	(48.1)	(29.5)	(49.7)	(59.3)	(55.7)	(70.0) e/

a/ Non-official estimate.

b/ As measured by the IBRD.

c/ As measured by the Central Bank of Brazil.

d/ Preliminary estimate of the Central Bank of Brazil.

9. IDB Loans (Authorized as of December 31, 1981)

	<u>US\$ Millions</u>	<u>% Composition</u>
Total	<u>3,894.0</u>	<u>100.0</u>
Ordinary Capital	1,748.9	44.9
Inter-regional Capital	1,058.6	27.2
FSO	936.3	24.0
SPTF	61.5	1.6
Other	88.7	2.3
By Sector		
Agriculture and fishing	728.4	18.7
Industry and Mining	703.1	18.1
Transport	581.6	14.9
Energy	1,260.7	32.4
Education, Science and Technology	208.3	5.3
Housing and Urban Welfare	23.3	0.6
Health and Sanitation	168.3	4.3
Preinvestment	33.7	0.9
Export Financing	186.7	4.8
	<u>3,894.0</u>	<u>100.0</u>

GLOSARIO DE SIGLAS

ABIMAQ	Asociación Brasileña de la Industria de Máquinas y Equipos
BID	Banco Interamericano de Desarrollo
CAPE	Coordinación de Perfeccionamiento de Personal de Educación Superior
CEDATE	Centro de Desenvolvimento e Apoio Técnico a Educação
CEPPCT	Comité de Evaluación de Préstamos, Proyectos y Cooperación Técnica
CEPES	Comissão Especial para Execução do Plano de Expansão e Melhoramento do Ensino Superior
CNPq	Consejo Nacional de Desarrollo Científico y Tecnológico
CRUTAC	Centro Rural Universitario de Entrenamiento y Acción Comunitaria
DASP	Departamento de Administración y Servicio Público
FUAM	Fundação Universidade do Amazonas
FUMA	Fundação Universidade do Maranhão
FAST	Fondo de Apoyo al Desarrollo Social
FUMT	Fundação Universidade do Mato Grosso
INPA	Instituto Nacional de Pesquisas do Amazonas
MEC	Ministerio de Educación y Cultura
PREMEN	Programa de Expansión y Mejoramiento de la Enseñanza
PETI	Número equivalente de profesores a tiempo completo
SENAC	Servicio Nacional de Aprendizaje Comercial
SENAI	Servicio Nacional de Aprendizaje Industrial
UFAC	Universidad Federal de Acre
UFAL	Universidad Federal de Alagoas
UFCE	Universidad Federal de Ceará
UFFL	Universidad Federal Fluminense
UFGO	Universidad Federal de Goiás
UFJF	Universidad Federal de Juiz de Fora
UTA	Unidad Técnica-Administrativa

BRAZIL

FEDERATIVE REPUBLIC OF BRAZIL

FEDERAL UNIVERSITIES DEVELOPMENT PROGRAM
(BR-0184)

LOAN PROPOSAL

I. BASIC INFORMATION ON THE OPERATION

A. Purpose of the Financing

- 1.01 The purpose of the global program considered under this loan proposal, for a total estimated cost of the equivalent of US\$200 million, is to develop the federal universities that still have major deficiencies. They are being developed in order to adapt them better to the requirements under the University Reform, so that they may make an effective contribution to Brazil's development, with particular emphasis on the needs of the local and regional milieu wherein they are located.
- 1.02 These universities are situated in zones or regions that have some special economic potential, either because they are on the country's agricultural frontier, because they are a focal point of industrial or mining development, because they contain known geological-mineral deposits that have not yet been sufficiently tapped, large forests, water resources and land reserves suitable for agricultural and livestock production or are well situated to provide goods and services to major market centers.
- 1.03 The program emphasizes the qualitative aspects of university development, a suitable relationship between the universities and their milieu and fewer regional differences within the Federal Higher Education System.

B. The Borrower

- 1.04 The borrower would be the Federal Republic of Brazil.

C. The Executor

- 1.05 The Ministry of Education and Culture (MEC) has decided that the program should be executed through CEDATE. Therefore CEDATE would be responsible for administration and general supervision of the program, and will serve as liaison between the other agents executing the program (CAPES and the executing units of the participating universities).

D. Type of Program

1.06 The program is global, involving multiple works.

E. Total Cost and Financing

1. Total cost

1.07 The total cost of the program has been estimated to be the equivalent of US\$200 million.

2. Financing

1.08 The plan for financing the program would be as follows: the Bank would finance up to US\$95 million (47.5%), of which US\$75 million (37.5%) would be in foreign currency and US\$20 million (10.0%) in local currency. The financing in foreign currency would come from the inter-regional capital and the financing in local currency would be from the Fund for Special Operations. The local contribution, an amount equivalent to US\$105 million, would come from the Federal Government.

3. Terms and conditions of the financing requested

1.09 Interest rate

IC 10.5% per annum, or the rate in effect at the time of approval of the eventual loan.

FSO 3% per annum

Credit Commission

IC 1.25%
FSO Not applicable

Period of amortization and grace period

IC 20 and 4-1/2 years
FSO 25 and 4-1/2 years

Deadline for the material initiation of works and disbursements

Two years for material initiation of works and four years for disbursements.

Inspection and control commission

1% of the amount of the eventual financing from the Bank.

II. FRAME OF REFERENCE

A. Basic Data

1. Functions

- 2.01 Under the pertinent laws of Brazil, the basic functions or target activities of the institutions of higher learning are as follows: (a) teaching (an activity whereby the high-level professionals that the country needs are provided with general and specialized training); (b) research (an activity that engenders knowledge, both basic and applied, in all the disciplines and their respective combinations and related fields); and (c) extension (an activity to spread culture and learning, where the resources, skills, and knowledge of the university are used to service social needs directly). Those activities should be conducted in such a way that they are mutually complementary and supportive.

2. Types of institutions

- 2.02 The system of higher education in Brazil is composed of 875 institutions, 65 of which are universities and 810 of which are separate schools or colleges. While both types must abide by the general laws in effect with respect to higher education, there are a number of features that distinguish one from the others.
- 2.03 Of the universities in Brazil, 45 are government universities and 20 are private. The government universities are divided into federal (34), state (9) and municipal (2) universities. The separate schools or colleges are predominately private. Of the 810 in existence, 627 are private, 120 municipal, 47 state and 16 federal.

3. Activities

- 2.04 The bulk of the research and extension activities of the higher education system are conducted by the 65 universities in the country. Those activities involve a wide variety of fields of knowledge and are related to numerous sectors of socioeconomic and cultural activity in Brazil. As for teaching, 4,079 programs are offered in the country leading to various academic degrees (technician, "licenciado", "bachelor") and 903 graduate programs (masters and doctorate). While the schools are more numerous, the universities offer more programs. This difference is particularly notable among the masters degree and PhD programs, where by far the majority are offered by the universities.

4. Students and professors

- 2.05 Enrollment in higher education in Brazil was approximately 1,345,000 regular students in 1980, approximately 45% of whom were women. By type of institution, enrollment broke down as follows: 392,000 students in government universities (29.1%); 250,000 students in private universities (18.6%); 101,000 students in public schools and colleges (7.5%); and

602,000 students in private schools and colleges (44.8%). As for professors, in 1980 there were approximately 116,000 teachers within the higher education system, more than 43,000 of whom were working in federal institutions.

5. Academic organization of the institutions

- 2.06 The "Brazilian University Reform" of 1966/1968 established that all universities in Brazil must be organized into departments. According to that model, a department is the basic unit of the university structure; it houses all the professors of the same discipline, with their respective material resources. This is different from the traditional university structure, where the school or college is the basic unit, with its own professors, students, classes, libraries, laboratories, officials, standards and even sources of financing.

6. Financing

- 2.07 The private institutions of higher learning basically cover their costs by charging for the services they provide; in particular, with student fees. They also receive private and international donations and government subsidies, although these are smaller in quantity than the income received through student fees. The current expenditures of the public institutions of higher learning are basically underwritten by the public treasury, either through the federal budget, the state budgets or the municipal budgets, according to the nature of each institution. Although in lesser amounts, the public institutions also derive income from certain services, particularly research services. Studies in government universities are gratis, save for small, token sums.
- 2.08 In addition to the budgetary allocation mentioned above to finance the investment expenditures of government institutions, international loans are also used, such as the one being considered herein, and loans from the "Social Development Assistance Fund" (FAS). Service on such loans is assumed by the Federal Union.

B. Major Problems and Needs

1. Demand for higher studies

- 2.09 The demand for higher studies has been high in the last decade and continues to be very high in all regions of Brazil. With certain regional variations, for each slot available in the first year of studies in the institutions within this system, there are more than 4 applicants that wish to fill it. This figure is an exaggeration of the real demand, because frequently the same individual takes the admissions exams ("vestibulares") for two or more institutions. But all the evidence available indicates that, without counting that effect, the pressure will continue to be high. Demand is greater in government institutions than in private institutions, because the studies are gratis and because the widespread view in Brazil is that the government institutions are, as a rule, better.

2. The problems of quality in higher education

- 2.10 Alongside the quantitative demand, there is an ever increasing need to improve the quality of the study programs. This is obviously related to the income expectations and status expectations of the individuals and families that have access to higher education, who largely come from the middle social strata. It is also related to the fact that despite the rapid increase in enrollment in public and private universities, public universities are unable to accept all applicants and this has spawned a number of weak schools not properly prepared to provide a higher education that is in fact useful for professional work.
- 2.11 Apart from the expectations of the individuals and families that apply pressure to have higher education expanded and improved, there is evidence that given the natural resources and potential of Brazil, the lack of adequately prepared human resources may represent an important barrier to rapid development of the economy. The ratio between social benefits and costs where education is concerned tends to be greater when the quality is higher. Considerations of this type are pertinent to the economic evaluation of the present program and are presented in systemic fashion in Chapter VIII of the report.

C. Policies and Programs

- 2.12 To adequately deal with the needs of the higher education system, the Ministry of Education and Culture of Brazil (MEC) has adopted the following major policies:

1. Priority to qualitative development

- 2.13 The MEC is of the view that at the present time, the higher education system is largely in need of qualitative improvements. In the 1970's, it experienced extensive growth; at the present time, more attention must be given to consolidation. In other words, the quality of the education offered in the system must be improved, research and extension must be promoted, gaps created by rapid growth must be filled and weak elements in the system must be strengthened.

2. A narrowing of regional differences

- 2.14 The well-known general differences that exist among the regions of Brazil are also reflected within the higher education system. The MEC has an explicit policy to narrow the differences among the educational institutions. Part of this policy is to address the need for regional relevance or a greater link between the target activities and the problems of the area in which the educational institutions operate.

3. Training and specialization of professors

- 2.15 While programs to provide professors in higher education with training and specialization have existed for a long time, in 1961 the "Office to

Coordinate Advanced Training of Personnel in Higher Education" (CAPES) was set up as a specialized agency of the MEC to promote and administer those programs, which would be integrated into a "national postgraduate plan". Recognizing that the academic staff of the higher education institution is a key element in qualitative development, the number of fellowships for professors was increased as part of a national plan that also made provisions for putting together a group of high-caliber graduates. In the second half of the last decade (1975-1980) the number of fellowships doubled, and by 1980 had reached 7,150 fellowship recipients taking courses in Brazil and 1,432 taking courses abroad. As a result of this CAPES program, which complements another similar program of the "National Scientific and Technological Development Council" (CNPq), the number of professors with masters and/or PhD degrees within the higher education system in Brazil is increasing rapidly.

D. Evaluation of Previous Operations

1. Evaluation of loan 158/SF-BR

- 2.16 On December 6, 1967, the Bank signed a loan contract with the Government of Brazil, for the equivalent of US\$25 million, for a program to expand and improve higher education in seven federal universities (Rio de Janeiro, Brasilia, Minas Gerais, Viçosa, Ceará, Pernambuco and Bahia), one state university (São Paulo), and one private university (Pontificia Católica de Rio de Janeiro).

a) Disbursements

- 2.17 Execution of the program was delayed by 36 months with respect to the period originally planned, which was 42 months. The construction work planned under the program was practically completed within the established time periods. The almost exclusive cause of the delays were in the process of purchasing equipment, especially within the Universities of Rio de Janeiro and São Paulo and the slow pace at which the technical assistance was conducted.

b) Cost of the program

- 2.18 The original cost of the program was estimated at the equivalent of US\$45.4 million, of which the Bank would contribute US\$25 million while the local counterpart would be US\$20.4 million. By the end of the program, the local counterpart resources had increased to the equivalent of US\$25.9 million, for an increase of US\$5.5 million.

2. Evaluation of loans 305/OC and 459/SF-BR

- 2.19 On February 11, 1976, the Bank signed the loan contracts for 305/OC-BR and 459/SF-BR with the Government of Brazil, for the equivalent of US\$20 million and US\$30 million, respectively. The overall objective of the program was to expand and improve higher education in 7 federal universities (Pará, Rio Grande do Norte, Paraíba, Sergipe, Bahia, Espiritu Santo and Brasília).

a) Execution of the program

- 2.20 Partial results of the evaluation show that the objectives and goals were widely achieved. In this regard, it should be pointed out that:
- i) of the goal of 3,191 professors to be hired, 4,621 new professors were hired, thus exceeding the goal by 1,430; of the 1,300 that were going to be trained 1,771 were awarded masters and doctorates, exceeding the goal by 471; ii) the physical facilities of the universities were improved through construction and outfitting of 430,000 square meters, which accounts for more than 60% of the area originally planned; iii) equipment and materials were acquired and installed for 370 laboratories for basic and professional education; and iv) the university libraries were improved through the acquisition 354,000 new books and 15,000 new technical and scientific journals.

b) Cost of the program

- 2.21 Originally the total cost of the program was US\$150 million. By the end of its execution, the total cost came to US\$180 million. By the end approximately US\$800,000 of the Bank's contribution from loan 305/OC-BR had been canceled; but the local contribution, which was originally US\$100 million, totaled US\$130 million.

c) The executing unit

- 2.22 The central executing unit of the program, CEDATE, was very efficient in coordinating, supervising and executing the program. The executing units within each participating university were also efficient.

E. The Program's Conception

1. Brazilian University Reform

- 2.23 University Reform is known as a group of structural changes made since 1966, which completely transformed the Brazilian University System, particularly its most prominent element, the government universities. The laws of the reform stated that the basic functions or target activities of the university would be teaching, research and extension, conceived as a service to Brazil's real needs or the needs of any of its regions. Those activities must, by necessity, be mutually supportive and complementary, and any other "means-activities" of the institution are subordinate to them.
- 2.24 The laws also provided that the university had to be integrated both in terms of its organization and its disciplines; this was exactly opposite to the scattering and lack of interrelationship among units, characteristic of the structure prevailing at that time. The reform specified an organization model that established the department as the smallest component within the university structure, prohibited duplication of means for identical or equivalent ends and made it mandatory that all academics in one or various related disciplines, heretofore scattered

among a number of units, be brought together in a single department and serve only one school or college.

- 2.25 There was also legislation on the specialization and dedication of teachers, on basic, common curricula within the programs of studies, on entry examinations and many other aspects involved in the operation of the university. The structural changes yielded a university that was entirely different from the kind of university that had existed prior to the Reform.
- 2.26 One of the major difficulties - not yet fully overcome - that was encountered when implementing the University Reform was the fact that the universities' physical facilities were scattered throughout the cities. The functional, organic and disciplinary integration of the university, required under the Reform, also presupposed its physical integration. This could not be accomplished with obsolete buildings, generally in bad condition and located in any number of sectors of the city.
- 2.27 In 1975 21 federal universities were picked out as having special problems with regard to the physical spread of facilities or insufficient means to satisfy the requirements under the Reform. The selection criteria were comparative deficiencies and adequate regional distribution of the federal universities. The MEC attended to 6 of those universities with Brazil's own resources. With the Bank it negotiated loans 305/OC-BR and 459/SF-BR to finance the investments involved with the other 7 institutions. Thus, 8 universities were not dealt with under those programs.
- 2.28 These 8 universities, plus another that was in the process of being organized in 1975 (Acre Federal University) are the target of the present program. Changes and additions can be made to meet the selection criteria specified further on.
- 2.29 The 9 universities identified, which can participate under the present program, are as follows:

Northern Region

Acre Federal University Foundation (UFAC)
Amazonas University Foundation (FUAM)

Northeast Region

Maranhão University Foundation (FUMA)
Ceará University Foundation (UFCE)
Alagoas Federal University (UFAL)

Southeast Region

Fluminense Federal University (UFFL)
Juiz de Fora Federal University (UFJF)

West Central Region

Goiás Federal University (UFGO)
Mato Grosso Federal University (UFMT)

2. The program in the current context

- 2.30 Student enrollment in institutions of higher learning in Brazil multiplied thirteen times over in a period of 20 years, increasing from approximately 100,000 in 1960 to over 1,300,000 in 1980. During the 1970's alone, the number of students enrolled increased by 900,000. But the additions made to the university's system were not all of the same quality. There are certain centers of excellence, that are of international renown, alongside less-well-equipped institutions. There are great regional differences.
- 2.31 The program being considered here is an effort to consolidate the relatively weakest federal universities so that they may better conform to the standards of excellence required under the University Reform and contribute more effectively to building the new Brazil, with particular attention to the needs of the local and regional milieu wherein they are located. The program is a continuation of the two earlier programs in which the Bank participated, but it places greater emphasis on the qualitative aspects of university development.

3. Selection of the representative sampling

- 2.32 Together with the MEC/CEDATE, the Bank selected 4 universities, mentioned earlier, for a more in-depth look at a representative sampling of projects included under the program. That selection was made on the basis of criteria of representation.
- 2.33 The representative sampling was composed of the following: a) the Fluminense Federal University (UFFL), b) Goiás Federal University (UFGO), c) the Amazonas University Foundation (FUAM), and d) the Federal University of Ceará (UFCE).
- 2.34 The cost of the projects of these 4 universities represents 65.3% of the total cost of the program, as indicated in the final column in the table below.

Table 2-1

<u>University</u>	<u>Region</u>	<u>Size of university 1/</u>	<u>Cost of the project (in thousands of US\$)</u>	<u>Cost of the project as a % of resources for the region</u>	<u>Cost of the project as a % of the total cost of the program</u>
UFFL	Southeast	Large	47,700	78.2	23.8
UFGO	West-Central	Medium-sized	18,950	65.3	9.5
FUAM	Northern	Medium-sized	24,650	74.0	12.3
UFCE	North-eastern	Medium-large sized	39,450	51.4	19.7
					65.3
					====

4. A diagnosis of the universities in the program

- 2.35 To develop the specific programs in a manner commensurate with the requirements of the University Reform and the specific needs of each institution, the situation of each university had to be diagnosed.
- 2.36 The Project Report (Chapter IV, Section D) contains a diagnosis of the 4 universities in the sampling and the basic conception of the respective projects.

III. THE PROGRAM

A. Objectives

- 3.01 The objectives of the program are as follows: (a) to improve the quality of education offered by the participating federal universities; (b) to increase the capacity of the universities to properly relate to the milieu in which they operate, through teaching programs, research and extension programs that satisfy local and regional development needs; and (c) to help consolidate Brazilian University Reform by strengthening the weakest universities and reducing regional disparities within the federal system of higher education.

B. Goals

- 3.02 During the period of execution of the program, it is proposed that the following objectives be achieved, which can be found in the target activities or substantive activities of the university (teaching, research and extension): (a) reorganization of the study programs and revision

1/ Small universities are considered to be those with less than 5,000 regular students; medium are those with between 5,000 and 10,000 students; medium-large, between 10,000 and 15,000; and large, more than 15,000.

of the curricula as a function of the needs in that milieu; (b) an increase in the number of professors actually performing research work; (c) redirecting activities that generate knowledge in the sense of placing greater emphasis on applied research work that is useful for development in the respective region; (d) programs to train teachers and programs in educational research; and (e) development of university extension programs in the areas of education, health, sanitation, housing, nutrition, agricultural and livestock production, mining and industry, nonconventional sources of energy, communications, cultural development and others that are relevant to the peculiarities of each state and region.

- 3.03 The measurable results that can be applied and that are expected to be achieved during the period of execution of the program are as follows: (a) training of approximately 500 university professors in masters and PhD programs (both in Brazil and abroad) and approximately 2,000 professors in specialized courses within the country. The number of professors with masters and/or doctorate degrees will be increased in the weakest universities to no less than 20% (the average for the federal system in 1982 was 28.3%); (b) approximately 400 basic and specialized training courses for around 7,500 members of the technical-administrative staff of the participating universities; (c) approximately 3,000 consultant-days of technical assistance to the participating universities in areas related to the consolidation of the University Reform and the other objectives of the program; (d) the construction, outfitting and necessary infrastructural facilities for approximately 365,000 square meters of laboratory buildings, libraries, classrooms, professors' offices and administrative support; remodeling of approximately 29,000 square meters of existing buildings. The academic area in good working order will be increased within the more deficient universities, to bring it in line with the current average for the federal system, which is 6.86 square meters per enrolled student; and (e) increase in the reference materials in the participating universities, by approximately 20%.

C. Criteria for Selecting the Universities

- 3.04 Each one of the projects included in this program must meet two types of requirements. The first concern the zone or region wherein the respective university is located; the second concern the relative deficiencies of the university with respect to the other universities in the federal system.

1. Criteria concerning the zone or region wherein each participating university is located

- 3.05 The following are the criteria as to zone or region: (a) in the program preference will be given to relatively less developed regions in Brazil. By way of exception, up to two universities whose impact area embraces special zones with severe socioeconomic deficiencies in a relatively developed region, may participate; and (b) the university must have

pinpointed regional problems and opportunities and include a strategy for dealing with those matters within its academic program.

2. Criteria for establishing the relative need of each participating university

- 3.06 The only universities that will be included in the program are those that need to consolidate their campus to conform to the model prescribed by Brazil's University Reform, and that have important deficiencies or inadequacies within their teaching staff. To qualify in this regard, the following conditions must be present: (a) more than 30% of the physical facilities of the university must be scattered outside the main campus, or (b) the academic area in good working condition, by student, is inferior to the standard for the federal universities (6.86 students per square meter), or (c) the number of professors with masters and/or doctorate degrees is below 40%, and (d) the current number of students enrolled divided among the equivalent number of professors full-time (PETI) is higher than the average for the federal system (9.3).

D. The Conditions that the Project of each Participating University Must Meet ^{1/}

- 3.07 The project of each university must be directed at accomplishing objectives and goals of the global program. Specifically, each project must include: (a) a plan of activities to improve the education offered by the university, including revision of the curricula and the course structure as a function of the needs of the respective zone or region; (b) a plan to increase and improve the research being conducted by the university, indicating the major academic areas whose research capability is to be strengthened; and (c) a plan of university extension activities to cooperate in improving basic and secondary education in the respective zone or state and resolving health problems among the population, promoting rational use of natural resources or contributing to any other useful purpose as regards socioeconomic development.
- 3.08 The project will not include components whose purpose is to increase the total number of slots in the first year of university studies. However, enrollment may increase gradually as more and more students pass courses and remain in school and as internal efficiency increases.
- 3.09 The project will include the following components, in a proportion sufficient to serve the objectives being sought and the particular needs of each university: training and specialization of teaching and administrative personnel, hiring of consultants, construction and outfitting of laboratories, libraries, classrooms, professors' offices, administrative areas and general service areas in the university. The project will not include construction of student housing or hospitals.

^{1/} These conditions must be set forth in agreements between the MEC/CEDATE and the participating universities.

- 3.10 Each project must reasonably conform to the principle of achieving the sought-after objectives at as low a cost as possible. In particular, luxurious buildings and adornments, costly structures and materials and purchases of nonessential equipment will be avoided.
- 3.11 Each project will be accompanied by data, forecasts and justifications, normally required by the Bank for specific projects in higher education. In particular: (a) the information shall be adequate to establish the frame of reference of the project and to know whether or not the above criteria as to the location and degree of deficiency of the respective university have been met; (b) cost estimates will be included for each one of the components of the project, with the respective bases for the calculations, schedules of execution, lists of equipment, complete preliminary drafts and definitive plans for a significant part of the works of the physical facilities; (c) also to be included is an analysis of the labor market for university professionals, and (d) a technical-administrative unit must be established within each university, to be in charge of coordinating execution of all aspects of the project, with sufficient full-time staff for those tasks.

E. Description 1/ 2/

1. Components of the program

- 3.12 The program includes training of teaching personnel and administrative personnel, technical assistance, engineering works and construction, and equipment.
- a) Training of teaching and administrative personnel (US\$23,800,000)
- 3.13 Approximately 500 professors of the participating universities will be trained in graduate courses. Some 200 of these will obtain doctorates, while 300 will obtain masters degrees. In addition, specialized training courses will be offered for approximately 2,000 professors.
- 3.14 The following academic fields, including their specialized branches and interdisciplinary combinations, shall qualify for postgraduate studies: (a) Natural and exact sciences; (b) Technology; (c) Health sciences; (d) Agricultural sciences; and (e) Economic, human and social sciences.
- 3.15 Finally, approximately 400 specialized training courses and general training courses will be offered for 7,500 members of the technical-administrative staff of the participating universities.

1/ Section F of Chapter V of the project report contains a detailed description of the projects of the 4 universities in the sampling.

2/ The costs include escalations and contingencies.

b) Technical assistance (US\$800,000)

- 3.16 The program will provide the participating universities with technical assistance for a total of no less than 3,000 consultants in more than 70 cases of advisory assistance. That advisory assistance will basically involve 4 areas: (a) the academic area; (b) laboratories; (c) data sciences; and (d) organization and methods.

c) Engineering works and construction (US\$104,000,000)

- 3.17 Under the program, laboratories, libraries, classrooms and professors' offices will be built, as will space for administrative functions and general services within the university, for a total of approximately 365,000 square meters. Approximately 29,000 square meters of existing buildings will be remodeled for the same purposes and the necessary physical infrastructure works will be completed such as potable water systems and drainage systems, electric power and telephone systems, access roads and internal traffic roads, covered passageways between certain buildings, sidewalks and landscaping.

d) Equipment (US\$37,050,000)

- 3.18 The program makes provision for acquisition and installation of equipment for laboratories and centers for experimentation in basic natural sciences, technology, agrarian sciences, health sciences, human sciences and applied social sciences; equipment for library centers and for other academic and administrative units within the participating universities.
- 3.19 This element also includes the furnishings for the buildings that will be constructed or remodeled under the program and an increase in the reference material in the libraries of the participating universities, by approximately 20%.

F. Total Cost and Financing of the Program

1. Total cost

- 3.20 The total cost of the program has been estimated at the equivalent of US\$200 million. What follows is a summary of that cost.

Total Cost of the Program, by Source of Financing

(US\$ thousands)

<u>Type of investment</u>	<u>I D B</u>			<u>BRAZIL</u>	<u>Grand</u>	<u>%</u>
	<u>Foreign</u>	<u>Local</u>	<u>Total</u>	<u>Local</u>		
	<u>exchange</u>	<u>currency</u>		<u>currency</u>	<u>Total</u>	
1. <u>Engineering and Management</u> 1/	-	-	-	18,600	18,600	9.3
1.1 Architectural design/ engineering	-	-	-	800	800	0.4
1.2 Management/supervision	-	-	-	17,800	17,800	8.9
1.2.1 Central	-	-	-	6,400	6,400	3.2
1.2.2 Executing agents	-	-	-	11,400	11,400	5.7
2. <u>Direct Costs</u> 1/	70,700	19,600	90,300	50,750	141,050	70.5
2.1 Works and installations	62,000	17,000	79,000	25,000	104,000	52.0
2.2 Equipment	8,700	2,600	11,300	25,700	37,050	18.5
3. <u>Concurrent Costs</u> 1/	3,000	-	3,000	21,600	24,600	12.3
3.1 Staff training	3,000	-	3,000	20,800	23,800	11.9
3.1.1 Teaching staff within the country	-	-	-	18,200	18,200	9.1
3.1.2 Teaching staff abroad	3,000	-	3,000	-	3,000	1.5
3.1.3 Technical/administrative	-	-	-	2,600	2,600	1.3
3.2 Technical assistance	-	-	-	800	800	0.4
4. <u>Financial Expenditures</u>	1,050	400	1,450	14,300	15,750	7.9
4.1 Interest	500	200	700	13,000	13,700	6.8
4.2 IDB credit commission 2/	-	-	-	1,300	1,300	0.7
4.3 Inspection/control	550	200	750	-	750	0.4
TOTAL	75,000	20,000	95,000	105,000	200,000	100.0
PERCENTAGE	37.5	10.0	47.5	52.5	100.0	

1/ The costs include contingencies and escalation.

2/ The IDB credit commission will be paid in foreign exchange.

2. Financing of the program

- 3.21 The plan for financing the program would be as follows: The Bank would finance up to a total of US\$95 million (47.5%), of which US\$75 million (37.5%) would be in foreign exchange and US\$20 million (10%) in local currency. The financing in foreign exchange would come from the inter-regional capital and the financing in local currency would come from the resources of the Fund for Special Operations. The local contribution would be on the order of US\$105 million and would come from the Federal Government. What follows is a summary of the costs of the program, by category of investment and source of financing.

IV. EXECUTION OF THE PROGRAM

A. Execution of the Program

- 4.01 The Ministry of Education and Culture (MEC) has decided that the program should be executed through the CEDATE, as mentioned earlier. Hence, CEDATE will be responsible for the administration and general supervision of the program, will act as the agency to coordinate the other executing agents of the program (CAPES and the executing units in the participating universities) and as liaison organ with the other offices of the MEC.

B. Central Coordination Unit

- 4.02 Although in practice this unit is already functioning, it would be formally established prior to the first disbursement and would report to the Office of the General Director of CEDATE. The unit would be divided into 7 areas and would have 35 upper-echelon employees, 8 middle-ranking employees, as shown in the table that follows:

<u>Central Coordination Unit</u>			
<u>Staff</u>			
	<u>Upper-echelon</u>	<u>Middle-level</u>	<u>Total</u>
Coordination	2	2	4
Follow-up and control	4	1	5
Documentation system	2	1	3
Projects and engineering works	11	1	12
Equipment	5	1	6
Budget, finance and accounting	6	1	7
Administration and imports	5	1	6
Total	35	8	43
	==	=	==

C. Manpower Training Unit

- 4.03 The manpower training aspect of the program will be executed by CAPES, through its office of Director of Programming, which would use the units of: (a) coordination of foreign fellowships; (b) coordination of domestic fellowships; and (c) coordination of studies and promotion, and will have the support of the Office of the Director for Management.

D. Basic Executing Unit

- 4.04 The executing units are already working within the various universities, on preparation of the project. However, they would be formally established prior to the first disbursement for each participating university. These units would report directly to the rector of the university and would be under the technical supervision of CEDATE in general and of CAPES for manpower training.
- 4.05 The basic executing unit would have 18 staff members, 12 of whom would be upper-echelon personnel. The remaining 6 would be middle-level staff. However, the number of staff members and their distribution would vary from university to university, depending upon the needs of the project. What follows is a table, with a summary classification of staff.

<u>Basic Executing Unit</u>			
<u>Staff</u>			
	<u>Upper-echelon</u>	<u>Middle-level</u>	<u>Total</u>
Administration of the project	2	1	3
Management of engineering works	4	2	6
Management of equipment	2	1	3
Management of technical assistance and manpower training	2	1	3
Management of bidding, procure- ments and administration	<u>2</u>	<u>1</u>	<u>3</u>
Total	<u>12</u>	<u>6</u>	<u>18</u>
	==	=	==

E. Period of Execution and Schedule of Disbursements

1. Period of execution and material start of works

- 4.06 The period of execution of the program will be 4 years and the material start of all the works will require 2 years.

2. Schedule of investments

- 4.07 Based on the program of execution prepared, the investments to be made therein are shown below by source of financing.

Schedule of Investments

Source of Financing
(US\$ thousands)

<u>Source</u>	<u>Y e a r</u>				<u>TOTAL</u>	<u>%</u>
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>		
IDB - IC	10,800	32,200	18,300	13,700	75,000	37.5
- FSO	2,900	9,600	4,850	3,650	20,000	10.0
Total IDB	13,700	40,800	23,150	17,350	95,000	47.5
Local contribution	25,850	32,250	24,850	22,050	105,000	52.5
Total	39,550	73,050	48,000	39,400	200,000	100.0
	=====	=====	=====	=====	=====	=====
Percentage	19.8	36.5	24.0	19.7	100.0	

F. Procedures for Execution

1. Bidding

4.08 To procure equipment, materials and furnishings, as well as the other goods related to the program, and in awarding contracts for engineering works and facilities, the international public bidding procedure must be used when the acquisitions and awards are in excess of the equivalent of US\$100,000 and provided that resources from the Bank's financing in foreign exchange are used. When those acquisitions and awards are made with resources exclusively from the local counterpart or from the Bank's financing in local currency, the respective biddings shall be restricted to the national sphere. However, all bids shall be governed by the bidding procedure agreed upon between the Bank and the Government of Brazil, which shall also be that of the present program and shall appear as an annex to the loan contract.

4.09 Nevertheless, special laboratory equipment would not be procured by invitation for bids because of its special nature; but with prior IDB authorization, other procedures in conformity with the standard provisions of the loan contracts could be used. These procedures will be submitted to the IDB if any purchase of more than US\$25,000 equivalent is involved, along with the supporting reasons. Only a few such cases are expected in equipment purchases under the program.

a) Engineering works and installations

4.10 Plans are that during execution of the program bids will be taken for engineering works and facilities for a total of the equivalent of US\$104 million. A breakdown of that amount by participating university and by year appear in Table 7-5.

b) Equipment

- 4.11 The detailed list of equipment, bibliographical material and furnishings appear in the files of the PSD/PRA. Provision has been made for bids to be taken for the purchase of equipment, furnishings and bibliographical material during the execution of the program, for a total amount estimated to be the equivalent of US\$37,050,000. A breakdown of that amount appears in Table 7-5, by year and by university.

2. Manpower training

- 4.12 In awarding fellowships for training teachers and technical-administrative personnel, the normal procedures used by the Office to Coordinate Advanced Training of Personnel in Higher Education (CAPES), of the Ministry of Education and Culture of Brazil (MEC), will be used. Specifically, in awarding fellowships for masters degree or PhD studies, the following procedure will be followed: (a) each year CAPES and each participating university shall jointly determine a specific number of slots for the following year in each one of the selected areas, in accordance with the criteria indicated in Chapter V of the Project Report; (b) in each participating university, the Departmental Board of the disciplines involved will nominate the professors to be candidates for fellowships; (c) the initial proposal undergoes an internal evaluation within the university, and (d) the university's proposal is evaluated by the staff of CAPES and by specialized consultants contracted by that agency.

3. Technical assistance

- 4.13 MEC-CEDATE has a classified list of over 2,000 consultants whose qualifications have already been established. That list was prepared with the assistance of CAPES and will be placed at the disposal of the participating university to facilitate the task of selecting Brazilian consultants. In accordance with the terms of reference for each advisory assistance (which will be prepared and made available to the Bank), the university will propose the specific consultants that it wishes to hire. CEDATE will approve the proposal, in accordance with the regulations issued by the Department of Management and Public Service (DASP) of the Federal Government.
- 4.14 Should no highly qualified Brazilian consultants be available in certain fields, the participating university, with CEDATE's approval, would hire international experts through procedures to be approved beforehand by the Bank.

G. Maintenance

- 4.15 Each university in the program will assume responsibility for maintenance of the works, installations, equipment and furnishings built and purchased during execution of the program.

- 4.16 The MEC/CEDATE has prepared manuals for adequate maintenance thereof. Those manuals were reviewed during the analysis and found to be satisfactory. Universities participating in the program have adequate maintenance programs run by the central administration and the program itself if implemented through the maintenance and repair office in the various campuses. These programs, however, should be adjusted to conform to the new requirements created by the works, facilities and acquisitions planned as part of this program.
- 4.17 In order to ensure adequate maintenance (as well as to beef up the staff) and as the works are completed and the equipment purchased, universities should include within their normal budgets, expenditures earmarked for maintenance, as detailed in Table 4-6 by university. In the case of engineering works, and installations, the cost of their maintenance was calculated as 1% of their total cost; in the case of equipment, it was calculated as 2% of the total cost.

<u>Annual Maintenance Costs</u> (US\$ thousands)			
<u>University</u>	<u>Engineering Works and Installations</u>	<u>Equipment</u>	<u>Total</u>
Fluminense	215,000	150,000	365,000
Ceará	175,000	130,000	305,000
Amazonas	120,000	60,000	180,000
Maranhão	90,000	60,000	150,000
Goiás	85,000	60,000	145,000
Alagoas	75,000	60,000	135,000
Juiz de Fora	50,000	60,000	110,000
Mato Grosso	55,000	10,000	65,000
Acre	38,000	26,000	64,000
Total	1,080,000 =====	439,000 =====	1,519,000 =====

- 4.18 Even though it has been established that the participating universities will assume responsibility for maintenance, the executing agency undertakes to present, for all projects and within the first 60 days of each year for a period of 10 years as of the start of the program, an annual maintenance plan containing information on the budgetary allocations, as well as the volume, quality and cost of the maintenance actually performed the previous year. This condition shall be included within the loan contract.

H. Recognition of Expenditures

- 4.19 In accordance with the information provided, and reviewed by the Bank, investments have been made in 3 of the of the universities, so as to be

able to use the summer season. The amount of these investments is US\$14 million, itemized as follows: Amazonas University (US\$5.8 million), Ceará University (US\$5.4 million); Goiás (US\$2.8 million). In addition to the foregoing, expenditures have been made to hire staff, who will be part of the central administration of CEDATE (US\$400,000) and the executing units in the universities (US\$600,000). It is proposed that any expenditures already made and to be made, in an amount equivalent to US\$15 million and charged against the local contribution and made under the program, before the date of the Bank's approval but subsequent to December 28, 1981, the date of the loan request, be recognized.

I. Status of Preparation of the Projects 1/

- 4.20 It has been established that the status of preparation of the preliminary plans and final designs as well as their economic feasibility and financial feasibility conform to the Bank's policy.
- 4.21 In effect, for the projects involving the universities in the representative sampling, more than 70%, in cost terms, of the final designs required to begin execution of those projects is available. Moreover, it has been established that in the representative sampling submitted, all the projects are economically and financially feasible.

J. Inspection and Supervision

- 4.22 Inspection and supervision of the program on the Bank's part will be conducted through the Bank's Office in Brazil and the view is that that office has sufficient staffing to do this satisfactorily.

K. Financial Flow of the Program

- 4.23 The resources of the program will be included in the budget of the MEC and assigned for transfer to the executing agent and administered in accordance with the terms of the agreements to be signed between MEC/CEDATE and the participating Federal Universities and MEC/CEDATE and CAPES, and in accordance with the pertinent regulations of MEC/CEDATE. Under the terms of those regulations, funds will be released on the basis of an investment schedule prepared and approved for each executing agent and as a function of CEDATE's recommendations, which will be in charge of overseeing the program and may recommend suspension of disbursements to a given Federal University in the event of irregularities or if the objectives of the program are not being achieved.
- 4.24 The MEC will transfer the IDB's resources and the local contribution resources in accordance with the terms of the Budgetary Law for each fiscal period, to the MEC/IDB-III Project account.

1/ All the technical, institutional, financial and socioeconomic supporting documentation are to be found in the files of the PSD/PRA Division. Those papers total 184 volumes.

L. Justification

1. Institutional and financial viability

- 4.25 The structure, procedures, systems, staff and controls of CEDATE and CAPES are adequate both for the volume of current activity and for the volume under the new program. In addition, they have extensive experience in executing programs of this type, which include one that is similar to the one being proposed here and which was just completed satisfactorily and was partially financed by the IDB. Further, the participating universities have already informally set up the executing units, which have and will have adequate advisory assistance, supervision and control from CEDATE and CAPES. All of the foregoing indicates that the new program will be successfully managed.
- 4.26 Financially speaking, the program would have a very small impact on the MEC's budget, since the average annual counterpart would account for 1% of the 1981 budget and 7% of the funds assigned, during the same year, for capital expenditures in higher education. Moreover, both CEDATE and CAPES are experienced in executing programs as large as the one being proposed and the universities manage budgets that are much greater in amount than the funds that they would have to manage under the program. Because of the foregoing and because of the high priority attached by the government, the program is regarded as financially feasible.

2. Educational aspects

- 4.27 The program analyzed in this document is in keeping with the higher education policies of the Government of Brazil. Basically, it consists of an effort to consolidate relatively deficient federal universities so that they may make a more effective contribution to the country's development, with particular emphasis on the needs of the local and regional milieu wherein they are located. Preferably, the participating universities will be those regarded as strategic, and that still have major needs unmet. The regional distribution of the program is reasonable. The program includes key elements for university development.

a) On the importance of higher education

- 4.28 The basic functions of the higher education system are essential for Brazil's overall development. Sustained growth in production calls for qualified professionals in a wide variety of fields and thus presupposes good quality education. Rational use of the country's natural resources and technological modernization, among many other aspects of development, require research, which is the task of the university. Through their extension activities, those institutions provide numerous social services, play a basic role in the cultural life of the country and in spreading knowledge to be used in all sorts of ways.

b) On the current status of higher education

- 4.29 Student enrollment in institutions of higher learning in Brazil increased rapidly in the last 20 years, especially between 1970 and 1980. As the system expanded, the quality of its constituent elements was not uniform throughout the entire system. There is considerable heterogeneity, and great differences exist among the educational institutions of various regions and among various types of institutions. The problem that stands out is not the diversity in itself, but rather the fact that many institutions cannot adequately fulfill the basic functions for which they were created or conduct the activities that constitute the very reason for their existence under reasonable conditions. Other universities, particularly in the southeast and south of the country, are outstanding centers of academic excellence.

c) On the objectives of the program

- 4.30 The objectives of the program, even more than the earlier programs, emphasize the qualitative aspects of university development. This is due in part to more rigorous regulations and controls on the part of the Federal Government with respect to the increase in university education. There are presidential decrees in effect that not only prohibit the creation of new institutions but also the establishment of new graduate programs and the hiring of additional personnel in existing programs. The objectives of this program are to improve quality in the performance of the universities' basic functions, to promote interaction between the university and its milieu and to consolidate the University Reform in a regionally balanced group of federal institutions.

d) On the goals of the program

- 4.31 The goals of the program are at two levels: one, of an instrumental nature, specifies the measurable results expected during the period of execution of the program; another, coordinated with the ends being sought, specifies the results expected of the substantive activities of the university (teaching, research and extension). Both types of results are subject to verification at the end of the program's execution and can also be used for partial evaluations during the course of the period of execution.

e) On relations with other levels of education

- 4.32 More and more, official decrees by the Brazilian Government reflect a growing concern for the major shortcomings and problems in the quality of basic education which persist in the rural zones of the country and on the periphery of urban zones. The III Sectoral Education Plan of Brazil (1980-1985), makes basic education its top priority within the sector and allocates to it the largest volume of resources, so that it may be developed. To improve the quality of education at that level, the universities' efforts in training teachers and in educational research and extension are essential. Thus, there is a link between this

program and basic education. This link is explicit in the program's goals.

f) On the selection criteria and the eligibility requirements of the project

- 4.33 Two types of requisites are established for selection projects. The first concerns the zone or region wherein the respective university is located; the second concerns the relative level of deficiency of the respective university in relation to the others in the federal system. All these criteria are commensurate with the objectives and goals of the global plan, the participating universities satisfy them and the projects of the representative sampling fulfill the eligibility requirements established for them.

3. Technical-constructive justification

- 4.34 The engineering works and construction proposed under this program are duly justified from the technical-constructive standpoint. During the analysis it was possible to appreciate the serious difficulties that the universities have in operating on campuses and installations that are inadequate, insufficient and scattered throughout an urban area.
- 4.35 The physical objective that the program seeks to achieve is to provide adequate facilities within the minimal space guidelines established by the MEC/CEDATE:
- 4.36 The table of physical areas occupied and new physical areas to be built shows the current facilities and the facilities needed within those guidelines.

Physical Areas Occupied and New Areas to Be Built (in m2) 1/

	<u>Occupied Area</u>	<u>Area in Good Con- dition</u>	<u>Area to be Re- modeled</u>	<u>Area to Be Built</u>	<u>Optimum Area</u>
1. UFAC	7,875	3,947	5,040	8,571	18,774
2. FUAM	25,671	13,078	-	50,154	80,038
3. UFMA	58,746	27,540	-	46,823	87,625
4. UFCE	128,317	100,987	9,000	41,511	176,555
5. UFAL	85,306	56,322	-	47,652	125,348
6. UFFL	80,097	42,252	14,840	86,089	177,585
7. UFJF	83,325	70,845	-	29,982	109,034
8. UFMT	41,532	31,110	-	28,742	81,262
9. UFGO	<u>92,784</u>	<u>53,080</u>	<u>-</u>	<u>25,778</u>	<u>98,787</u>
Total	603,653 =====	399,161 =====	28,800 =====	365,302 =====	955,008 =====

1/ According to data from Vol. II MEC/CEDATE.

- 4.37 The goals of the program are to remodel those structures where feasible and construct new buildings and facilities, while avoiding the use of improvised space for teaching activities as much as possible.
- 4.38 The program is designed to satisfy a substantial part of the demand for space, even though the previous table shows that it does not reach the levels established as optimum areas.
- 4.39 The designs, specifications and programming of the execution of the program were approached in pragmatic fashion, taking into account the operation and maintenance of the buildings and facilities and with a view to obtaining as great a benefit as possible from the proposed investments. This program is designed on the basis of standards developed by the MEFC/CEDATE, which are accessible and in keeping with other engineering works and university buildings partially financed by the Bank.

4. Socioeconomic justification

- 4.40 The program is meant to overcome deficiencies in operation of these universities --deficiencies which diminish the quality and efficacy of their program. This program may be viewed in the framework given in the foregoing sections to consolidate the federal university systems, raising the quality of nine institutions which were identified by their critical need for better infrastructure and programs, as a result of rapid expansion in the last ten years.
- 4.41 The truly meaningful contribution of the university will be the unvarying production of a sound education of excellent quality to meet the needs of a dynamic economy, while offering the means to develop research. The university must itself serve specific interests which may be local, regional, national or international in scope.
- 4.42 In spite of the difficulties of calculating or simply of identifying the benefits of bettering the quality of one university, an attempt has been made to assess the economic return of the program so as to make it possible to compare it with alternative investments. It should be noted that this was precisely the question which the Brazilian government faced in the process of making budgetary appropriations for these projects, in relation to several other spending programs. Even though there was no economic evaluation at that time, it demonstrated enough urgency to justify the awarding of priority status.
- 4.43 The economic costs of this program are associated not only with the initial investment in infrastructure facilities but associated as well with the amount of resources that must be allocated each year to maintain it at a level of operation capable of generating the expected benefits. The economic benefits consist mainly of the contribution that university graduates will make to the economy in the form of skilled manpower. There are other benefits, perhaps less tangible but no less real in their contribution: these comprise the product of research activities

and extension work and the role of the university as one of the most important institutions in any society.

- 4.44 It is believed that higher education in Brazil has a regressive effect on income distribution. Those who meet the conditions to enter the university have now become not only a member of a privileged group, but it seems that the high level of subsidy received by the public universities favors especially those persons who are in the highest income groups. The reason for this is that the applicants who manage to enter the university for the most part come from private secondary schools, to which only high-income persons have access. The low-income groups, who come from public schools, generally must attend private institutions, paying the cost of education and not always receiving an acceptable level of instruction.
- 4.45 The low-income threshold set for Brazil is Cr\$162,591 per capita per annum (at August 1982 prices). The student needs not less than Cr\$240,000 to survive while attending a university, taking subsidies for food into account. Student loans and scholarships do not exceed Cr\$4,000 monthly, an amount which barely covers transportation costs. The direct benefits to low-income groups, therefore, tend to be marginal though, as a result of extension services in education and health, some poor neighborhoods can indeed receive substantial benefits. These benefits are small when compared with the total output of the university and are financed generally through specific public funds.
- 4.46 Many indicators suggest that the efforts to satisfy societal demand have come up against the normal interest in maintaining standards of quality at a suitable level. The federal university system, which manages 34 of the 65 universities in Brazil, has a grave responsibility, therefore, in the development of higher education. Hence, it is endeavoring to consolidate the expansion that has taken place in recent years, reorganizing 9 universities found to have critical needs with respect to physical infrastructure and academic performance. The Ministry of Education, in cooperation with the participating universities in the program, has financed a series of projects in which the physical consolidation of each one of the new universities stands out. Whereas this has been for some time a principal concern, it now has become a matter of critical importance to lend attention to the academic and administrative component of the program. In fact, a reasonable effort is now in progress in this connection. But, the universities must carry out considerable activity to establish a system such as will ensure the efficient operation of the institution.
- 4.47 The proposed program can make a considerable contribution to increasing the productivity of the professionals that graduate and to generating research and extension services. Available evidence indicates that the quality of professional training has a significant impact on the productivity of the professionals. If the university manages to establish adequate academic programs in efficient fashion, it will obtain a social

return that compares favorably with other profit-making investments in the Brazilian economy. The proposed program establishes the conditions by which to bring this about.

- 4.48 Thus the program is a societal program which, inasmuch as its purpose is to assist in the development of educational institutions that serve the less-developed areas or regions of Brazil, justifies the use of local currency from the Fund for Special Operations.

M. External Auditing of the Program

- 4.49 The financial statements of the program will be presented to the Bank, with the certification of the Central Secretariat of Internal Control of the Secretariat for Planning of the Office of the President of the Republic, during the period of the program's execution.

N. Evaluation of the Program

- 4.50 The purpose of evaluating the program will be to establish whether or not the goals have been fulfilled, to analyze possible problems that arise during execution thereof and to determine the program's impact in terms of its general objectives.

1. Ongoing evaluation

- 4.51 Project selection criteria have been established, as have projects and university conditions for the evaluation phase before and after the life of the program. These are based on its objectives and goals. Those criteria and conditions provide the basis for the ongoing evaluation process described as follows: (a) approval of the loan - terms of execution; (b) execution - first phase (evaluation during the first 2.5 years of execution); (c) medium-range examination; (d) final report of the borrower (which must be produced at the time of the final disbursement); and (e) ex-post evaluation (5 years after the final disbursement).

2. Evaluation stages

- 4.52 These will involve progress and impact evaluations, in accordance with the criteria established for that purpose. These criteria will appear in the loan contract. The first report will be filed two and a half years after the program's execution begins; on the basis of an in-depth evaluation of the progress and impact, using the same criteria, to be done five years after the final disbursement, an ex-post impact evaluation will be made. The participating universities will use students during the evaluation stages.

PROPOSED RESOLUTION 1/

BRAZIL. LOAN /IC-BR TO THE FEDERATIVE REPUBLIC OF BRAZIL
(Federal Universities Development Program)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Federative Republic of Brazil, as borrower for the purpose of granting it financing to cooperate in the execution of a federal universities development program. This financing shall be subject substantially to the following conditions:

1. Amount and Currencies: Up to US\$75,000,000, or the equivalent in other currencies which are part of the interregional capital resources of the Bank, to pay for goods and services acquired through international competition in the member countries of the Bank and for such other purposes as may be specified in the loan contract. Payments of amortization and interest shall be made in the currency or currencies specified by the Bank, in a quantity equivalent to the corresponding amount owed, calculated in units of account in terms of dollars of the United States of America, in accordance with provisions to be included in the loan contract.
2. Source of Funds: The inter-regional capital resources of the Bank.
3. Guarantee: The general responsibility of the borrower.
4. Credit Fee: 1-1/4% per annum on the undisbursed portion of the financing, commencing to accrue 60 days after the date of the contract and payable in dollars of the United States of America on the same dates as the interest.
5. Amortization: The borrower shall amortize the loan in a period of 20 years from the date of the contract, by means of semiannual, consecutive and, insofar as possible, equal installments. The first installment shall be paid 6 months after the date scheduled for the last disbursement of the financing.

1/ The provisions contained in this appendix and in Appendices A, B and C will only be final when the Board of Executive Directors has approved the loan proposal.

6. Interest: 10-1/2% per annum payable semiannually on principal amounts outstanding. The first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the financing may be used to pay interest during the period of disbursement thereof.
7. Physical Initiation and Disbursement: The term for physical initiation of all projects shall expire 2 years after the effective date of the contract, and the term for disbursement of the financing shall expire 4 years after the same date.
8. Special Conditions:
 - (a) The resources of the loan shall be utilized in their entirety by the executing agency, the Ministry of Education and Culture (MEC). If modifications in the legal provisions or the basic regulations concerning the executing agency are approved which, in the opinion of the Bank, may substantially affect the program, the Bank may take such measures as it deems appropriate in accordance with provisions to be set forth in the loan contract.
 - (b) The resources of the loan, together with those of Loan /SF-BR, shall be used to participate in the execution of a program the cost of which is estimated at the equivalent of US\$200,000,000. Consequently, the loan contract shall contain appropriate provisions to ensure that such resources as may be necessary, in addition to the loans, for the complete execution of the program shall be duly provided, in an amount estimated at the equivalent of US\$105,000,000, in accordance with a schedule of investments satisfactory to the Bank.
 - (c) Prior to the first disbursement of resources of the financing, the executing agency shall present to the Bank, in a satisfactory manner, evidence that the Central Executing Unit for the Program has been established within the MEC, in the Centro de Desenvolvimento e Apoio Técnico a Educação (CEDATE).
 - (d) In the acquisition of machinery, equipment and other materials for the project, and in the awarding of construction contracts, the Borrower shall follow the system of public bids in each case in which the value of such acquisitions or contracts exceeds the equivalent of US\$100,000. The bidding shall be subject to the procedures to be appended as an annex to the loan contract.
 - (e) The Bank may waive the public bidding requirement for acquisition of specialized laboratory instruments, books and other publications, provided that the borrower so requests, stating the reasons for the request and indicating the procedures it plans to

follow, consistent with the purposes of the financing. In every case, the procurement procedure, as well as each purchase or contract award individually exceeding the sum of US\$25,000 or its equivalent, shall be subject to prior approval by the Bank.

- (f) The Bank shall establish such inspection procedures as it deems necessary to assure the satisfactory execution of the program, and the borrower and the executing agency shall extend all co-operation which is required for the most effective accomplishment of this purpose. From the amount of the financing the sum of US\$750,000 shall be allocated for credit to the general income accounts of the Bank to meet expenses of general inspection and supervision.

- 9. Conditional Provision. This resolution will enter into force only when the Board of Executive Directors has determined by means of a resolution that the Bank has sufficient resources available in the inter-regional capital to cover the loan authorized by this resolution.

PROPOSED RESOLUTION^{1/}

BRAZIL. LOAN /SF-BR TO THE FEDERATIVE REPUBLIC OF BRAZIL
(Federal Universities Development Program)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Federative Republic of Brazil, as borrower, for the purpose of granting it financing to cooperate in the execution of a federal universities development program. This financing shall be subject substantially to the following conditions:

1. Amount and Currencies: Up to the equivalent of US\$20,000,000 in cruzeiros which are part of the Bank's Fund for Special Operations, to cover local expenses and for such other purposes as may be specified in the loan contract. Payments of amortization and interest shall be made in cruzeiros.
2. Source of Funds: The Fund for Special Operations.
3. Guarantee: The general responsibility of the borrower.
4. Amortization: The borrower shall amortize the loan in a period of 25 years from the date of the contract, by means of consecutive, semi-annual, and insofar as possible, equal installments. The first installment shall be paid 6 months after the date scheduled for the last disbursement of the financing.
5. Interest: 3% per annum, payable semiannually on principal amounts outstanding. The first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the financing may be used to pay interest on the financing during the disbursement period thereof.
6. Physical Initiation and Disbursement: The term for physical initiation of all the projects shall expire 2 years after the effective date of the contract, and the term for disbursement of the financing shall expire 4 years after the same date.

^{1/} The provisions contained in this appendix and in Appendices A, B and C will only be final when the Board of Executive Directors has approved the loan proposal.

8. Special Conditions:

- (a) The resources of the loan shall be utilized in their entirety by the executing agency, the Ministry of Education and Culture (MEC). If modifications in the legal provisions or the basic regulations concerning the executing agency are approved which, in the opinion of the Bank, may substantially affect the program, the Bank may take such measures as it deems appropriate in accordance with provisions to be set forth in the loan contract.
- (b) The resources of the loan, together with those of Loan /IC-BR, shall be used to participate in the execution of a program the cost of which is estimated at the equivalent of US\$200,000,000. Consequently, the loan contract shall contain appropriate provisions to ensure that such resources as may be necessary, in addition to the loans, for the complete execution of the program shall be duly provided, in an amount estimated at the equivalent of US\$105,000,000, in accordance with a schedule of investments satisfactory to the Bank.
- (c) Prior to the first disbursement of resources of the financing, the executing agency shall present to the Bank, in a satisfactory manner, evidence that the Central Executing Unit for the Program has been established within the MEC, in the Centro de Desenvolvimento e Apoio Técnico a Educação (CEDATE).
- (d) In the acquisition of machinery, equipment and other materials for the project, and in the awarding of construction contracts, the Borrower shall follow the system of public bids in each case in which the value of such acquisitions or contracts exceeds the equivalent of US\$100,000. The bidding shall be subject to the procedures to be appended as an annex to the loan contract.
- (e) The Bank may waive the public bidding requirement for acquisition of specialized laboratory instruments, books and other publications, provided that the borrower so requests, stating the reasons for the request and indicating the procedures it plans to follow, consistent with the purposes of the financing. In every case, the procurement procedure, as well as each purchase or contract award individually exceeding the sum of US\$25,000 or its equivalent, shall be subject to prior approval by the Bank.
- (f) The Bank shall establish such inspection procedures as it deems necessary to assure the satisfactory execution of the program, and the borrower and the executing agency shall extend all cooperation which is required for the most effective accomplishment of this purpose. From the amount of the financing the equivalent of US\$200,000 in cruzeiros shall be allocated for credit to the general income accounts of the Bank to meet expenses of general inspection and supervision.

RECOMMENDATIONS

It is recommended that the following conditions, to be fulfilled to the Bank's satisfaction, be included in the loan contracts in addition to the conditions set forth in the proposed resolutions:

1. Unless the Bank may otherwise agree, prior to the issuance of each call for public bids, the following items, as appropriate, shall be presented:
 - (a) the final plans to be executed, specifications, budget, specific bidding requirements and any other documents necessary for the invitation; and
 - (b) in the case of construction, evidence of legal possession of the site in a location which the Bank considers appropriate and which makes possible the construction in question, as well as legal possession of the pertinent easements or other rights.
2. Within 12 months from the effective date of the loan contracts, the Executing Agency shall present to the Bank:
 - (a) the baseline data for the categories specified in Section VI of Appendix D; and
 - (b) a description of the system for compiling and processing the data to be used in making the annual comparisons to evaluate the results obtained through execution of the program.
3. After a period of two years counted from the effective date of the loan contracts, and annually until three years after the date of the last disbursement, the Executing Agency shall present to the Bank the annual comparative data for the categories mentioned above in 2(a).
4. Prior to the end of the fourth year following the date of the last disbursement, the borrower, through the Executing Agency, shall present an ex post evaluation report on the results of the program, based on the methodology and rules already agreed upon with the Bank.
5. Prior to the first disbursement for each university, the Executing Agency shall subscribe the respective agreement with the Executing Agency of the project to the University, whose draft shall be approved by the Bank. The agreements shall have the recommendations indicated in paragraph X of Appendix D.
6. The Bank may recognize, as part of the local contribution for financing the program, expenditures incurred by the borrower in the execution of the program before the date of approval of the resolutions, but after December 28, 1981, for a total amount not exceeding the equivalent of US\$15,000,000, provided that requirements substantially similar to those set forth in the resolutions and the loan contracts have been fulfilled.

7. The borrower shall undertake to present, through the executing agency, for all the projects, within the first 60 days of each calendar year and for 10 years after the start of execution of the program, an annual plan for maintenance of the works carried out, the goods acquired and the services provided, with information on the budgetary appropriations made, as well as the volume, quality and cost of maintenance in the previous year.
8. The financial statements on the program shall be presented, during the program's execution, with an opinion of the Secretaria Central de Controle Interno of the Secretaria de Planejamento of the Presidência da República.
9. An annex substantially similar in content to Appendix D shall be included in the loan contracts.

PROGRAM DESCRIPTION
(Annex A to Loan Contract)

I. The Program

- 1.01 The Program is intended to contribute to the development of the Federal Universities in order to improve their adjustment to the requirements of the Brazilian University Reform. The Program includes components of training of teachers and administrative staff, technical assistance, works and construction and equipment. These components are directly related to the conditions of each participating University in a way that each one will contribute to fulfill the needs of its local and regional environment.

II. Objectives

- 2.01 The objectives of the Program are:

- (a) To upgrade the education offered by the participating federal universities.
- (b) To improve the universities' ability to relate appropriately to the environment in which they operate, through instructional, research and extension programs that satisfy local and regional development needs.
- (c) To contribute to a consolidation of the Brazilian University Reform by strengthening those universities with the greatest needs and reducing the regional disparities in the federal system of higher education.

III. Targets

- 3.01 The proposed verifiable targets of the Program in instruction, research and extension are those indicated below:

- (a) Restructuring study programs and revising curricula to bring them into line with local requirements.
- (b) Increasing the proportion of instructors actually engaged in research activities.
- (c) Redirecting activities relating to the increase of knowledge so as to give greater emphasis to applied research useful for development of the region involved.
- (d) Conduct of teacher-training and educational research programs aimed at improving the basic and intermediate education system of the states involved.

- (e) Development of university extension programs in the areas of education, health, sanitation, housing, nutrition, agriculture and livestock production, mining and industry, non-conventional energy sources, communication, cultural development, and others relevant to the particular characteristics of each state and region.

3.02 The instrumental targets of the Program are:

- (a) Training of approximately 500 university instructors in Master's and doctoral programs (in Brazil and abroad) and approximately 2,000 in specialization courses in Brazil.
- (b) Approximately 400 training and specialization courses for some 7,500 members of the technical and administrative staff of the participating universities.
- (c) Provision of approximately 3,000 consultant-days of technical assistance to the participating universities, in areas relevant to consolidation of the university reform and other objectives of the program.
- (d) Construction, equipping and provision of the necessary infrastructure for approximately 365,000 m² of laboratories, libraries, classroom, professors' lounges, space for administrative support and general services; and renovation of approximately 29,000 m² of existing buildings. The academic area in suitable conditions for use in the neediest universities will be brought closer to the current average for the entire federal system, which is 6.86 m² per enrolled student.
- (e) An increase of approximately 20% in the number of volumes in the library collections of the participating universities.

IV. Description of the Components

- 4.01 The Program includes components in the areas of training of teaching and administrative staff, technical assistance, works and construction, and equipment.

(a) Training of teaching and administrative staff

Postgraduate training will be provided to some 500 professors from the participating universities, 200 of whom will obtain doctorates and 300 Master's degrees; in addition specialization courses will be offered to 2,000 university professors. The training will be in the areas of: (i) natural and exact sciences; (ii) technology; (iii) health sciences; (iv) agrarian sciences; and (v) economic, human and social sciences.

Approximately 400 specialization and training courses will be offered for 7,500 members of the technical and administrative staffs of the participating universities, who constitute more than 60% of their total personnel; the courses will be offered in a number of

fields which are important for adequate university administration, including: training of laboratory technicians, specialized machine operators, data processing and statistical personnel, library and archives auxiliaries; techniques of university extension, physical plant and equipment maintenance, personnel management, financial management and accounting, materials administration, teaching materials graphics and layout, preparation and management of audiovisual aids, management of university presses and restaurants, academic records processing and management, microfilming, intrauniversity communications, etc.

(b) Technical Assistance

As part of the program, at least 3,000 consultant-days of technical assistance will be provided to the participating universities through more than 70 advisory service projects. The advisory services will cover basically 4 areas:

(i) Academic area

Curricular planning (evaluation, design and implementation of instructional contents and methods in the study programs).

Planning and administration of university research and extension programs.

(ii) Laboratory area

Installation, use and correct maintenance of specialized equipment in various types of laboratories.

(iii) ADP Area

Improvement and integration of information, library, archives, documentation center and data processing systems.

(iv) Organization and methods area

Restructuring of units and functions. Improvement of administrative procedures.

(c) Works and construction

As part of the program, a total of, approximately 365,000 m² of buildings for laboratories, libraries, classrooms and faculty rooms, and areas for university administration and general services will be constructed; approximately 29,000 m² of existing buildings for the same functions will be remodeled; and necessary physical infrastructure facilities will be completed, including water supply and drainage systems, electric and telephone lines, access roads

and internal streets, covered passages between certain buildings, walkways and landscaping.

(d) Equipment

The program includes procurement and installation of equipment for laboratories and experiment centers in basic natural sciences, technology, agrarian sciences, health sciences, applied human and social sciences; equipment for central libraries and for another academic and administrative units of the participating universities. It also includes purchase and installation of furniture for the buildings to be constructed or remodeled under the program, as well as the increase in the library collectives of participating universities.

V. Total Cost and Financing

5.01. Total Cost

The total cost of the program has been estimated at a total equivalent to US\$200,000,000, in accordance with the following table of distribution and financing:

TOTAL COST OF THE PROGRAM
BY SOURCE OF FINANCING
(US\$ thousands)

Investment Category	I D B			Brasil	Gran	%
	Foreign Exchange	Local Currency	Total	Local Currency	Total	
1. <u>Engineering and Administration a/</u>	-	-	-	18,600	18,600	9.3
1.1 Designs	-	-	-	800	800	0.4
1.2 Adm. and Superv.	-	-	-	17,800	17,800	8.9
1.2.1 Central	-	-	-	6,400	6,400	3.2
1.2.2 Agents	-	-	-	11,400	11,400	5.7
2. <u>Direct Costs a/</u>	70,700	19,600	90,300	50,750	141,050	70.5
2.1 Works and Instal.	62,000	17,000	79,000	25,000	104,000	52.0
2.2 Equipment	8,700	2,600	11,300	25,750	37,050	18.5
3. <u>Concurrent Costs a/</u>	3,000	-	3,000	21,600	24,600	12.3
3.1 Staff Training	3,000	-	3,000	20,800	23,800	11.9
3.1.1 Training in Brazil	-	-	-	18,200	18,200	9.1
3.1.2 Training Abrod	3,000	-	3,000	-	3,000	1.5
3.1.3 Technical/Admini- strative Staff	-	-	-	2,600	2,600	1.3
3.2 Technical Assistance	-	-	-	800	800	0.4
4. <u>Financial Costs</u>	1,050	400	1,450	14,300	15,750	7.9
4.1 Interest	500	200	700	13,000	13,700	6.8
4.2 IDB Credit Fee b/	-	-	-	1,300	1,300	0.7
4.3 Inspection and Supervision	550	200	750	-	750	0.4
TOTAL	75,000 =====	20,000 =====	95,000 =====	105,000 =====	200,000 =====	100.0 =====
PERCENTAGE	37.5 =====	10.0 =====	47.5 =====	52.5 =====	100.0 =====	

a/ Includes the costs of unpredictable and escalations.

b/ The IDB credit fee will be payable in foreign exchange.

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VI. Selection Criteria for the Universities

6.01 Criteria pertaining to the zone or region where each participating university is located

The criteria with respect to zone or region are:

- (a) Preference will be given in the Program to the less developed regions of Brazil. Exceptionally up to two universities will be allowed to participate whose areas of influence are special zones with severe socio-economic shortages, within relatively developed regions.
- (b) The university shall identify problems and opportunities of a regional character and shall include in the academic program the required strategy.

6.02 Criteria for determining the relative needness of each participating university

Only those universities will be included in the program that need to consolidate their campus according to the model prescribed by the University Reform of Brazil or that suffer from major deficiencies or shortage in their teaching staff. This condition will be considered to exist when two or more of the following circumstances occur simultaneously in one and the same university:

(a) Regarding physical installations:

- (i) More than 30% of the university's physical installations are in various places outside the main campus.
- (ii) The academic area in suitable condition for use, per student, is below the average for the federal universities ($6.86 \text{ m}^2/\text{student}$).

(b) Regarding the professors:

- (i) The proportion of professors with a master's degree and/or doctorate is below 40%.
- (ii) The present number of enrolled students, divided by the equivalent number of full-time instructors, gives a ratio below the average for the federal system (9.3).

(c) In addition to the above indicators, the following needs tests will be applied in a supplementary way in selecting the participating universities:

- (i) There is administrative weakness or insufficient training of technical-administrative personnel.
- (ii) Notorious inadequacy of equipment for instruction and research.

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- (d) Library collection poor in comparison with those of other Brazilian federal universities.

Preference will be given in the Program to those universities which may reasonably be classified, based on the aggregate of the indicators mentioned above, as the neediest in the federal system.

VII. Evaluation of the Program

- 7.01 The evaluation of the program will be one continuous process, divided into the following stages:

- (a) conditions for execution;
- (b) mid-term evaluation;
- (c) borrower's final report; and
- (d) ex post evaluation.

- 7.02 The criteria for the selection and eligibility of projects were established for the ex ante assessment and provide the basis for the continuing evaluation process.

- 7.03 A first report would be submitted 2-1/2 years after execution begins and would include an evaluation of the program's progress and impact; the data from this first report will be used in making the mid-term evaluation.

- 7.04 The indicators required for the continued evaluation will be the same as used in the ex post evaluation and refer each calendar year, starting with the previous year to the beginning of the Program.

(a) Instruction

- (i) Number of candidates registered for admission examinations and number of vacancies by year and major program.
- (ii) Enrollment, by year and major program.
- (iii) Number of graduates, by year and major program.
- (iv) measures of academic performance (approval, failures, etc.)
- (v) Revisions and restructuring of study programs and teaching methods.

(b) Research

- (i) Proportion and number of instructors doing research, by area of knowledge.

- (ii) Research projects carried out and their major products or outcomes, by area of knowledge.
- (iii) Socioeconomic utilization of the products or outcomes of such research.

(c) Extension

- (i) Number and proportion of professors and students engaged in extension activities, by area of knowledge.
- (ii) Extension activities carried out, by sector.
- (iii) Results of such activities discernible in the local and regional environment.

(d) Support for basic and intermediate education

- (i) Number of teachers trained, by discipline and academic degree.
- (ii) Educational research done, its outcomes, and utilization of the outcomes in the educational system.
- (iii) Extension courses, advisory service and assistance projects carried out.

(e) Instrumental Targets

- (i) Number of instructors trained in (a) specialization courses, (b) master's programs; and (c) doctoral programs, by major areas.
- (ii) Effects of the training on the following indicators:
 - (a) proportion of instructors who have taken specialization courses;
 - (b) proportion of instructors with a Master's degree; and
 - (c) proportion of instructors with a Doctoral degree.
- (iii) Comparison of the above indicators with the averages for the federal system.
- (iv) Number of members of the technical-administrative staff trained, and their distribution by area and year.
- (v) Advisory service projects carried out, by area and year, specifying the number of consultant-days used.

- (vi) Number of square meters of construction, by type of area.
- (vii) Effect of construction on the following indicators:
 - (a) total area per student;
 - (b) academic area per student; and
 - (c) academic area in suitable condition for use, per student.
- (viii) Comparison of the above indicators with the averages for the federal system, before and after the program.
- (ix) Laboratories and libraries equipped.
- (x) Number of volumes acquired for each library (periodicals and books).
- (f) Operating efficiency of the university
 - (i) Operating and maintenance costs, per student, per instructor, per administrative employee, and per built-up square meter, shown separately for each academic or administrative unit.
 - (ii) Student-instructor ratio, by academic unit or program.
- (g) The university and its environment

Socioeconomic information about the region or community in which the university operates.
- (h) The Labor Market
 - (i) Information on levels of employment and unemployment for professionals, by region and occupation.
 - (ii) Graduate follow-up survey. Information in accordance with the system to be instituted at each university.

VIII. Bidding

- 8.01 When goods and services to be procured are to be financed in whole or in part with funds to be provided under Loan Contract /IC-BR, the bidding specific conditions shall permit unrestricted participation of bidders from member countries of the Bank. Consequently, no requirements that would preclude or restrict participation of such bidders shall be established through such procedures and specific conditions.

IX. Selection and Contracting of Consultants

- 9.01 For the selection and contracting of consulting firms or individual consultants to perform the work envisaged in the project, when such services are to be financed in whole or in part with funds from Loan /IC-BR, procedures considered satisfactory by the Bank shall be followed, with the understanding that the borrower may not impose conditions that would preclude or restrict the selection or contracting of consulting firms from member countries of the Bank, nor establish requirements or conditions, before or after the rendering of services, based on the nationality of the firms. With the resources from Loan /SF-BR or from local contributions the selection of consulting firms or individual consultants can be restricted to local firms and local individual consultants.

X. Agreements

The Agreements between MEC/CEDATE and the participating universities shall indicate the following conditions:

- 10.01 The project of each university must be directed toward the achievement of the objectives and goals of the overall program. In particular, each project must include:
- (a) A plan of activities for improving the instruction offered by the university, including revision of the curricula and course structure to bring them into line with the needs of the respective zone or region.
 - (b) A plan for increasing and improving the research done by the university, with a statement and explanation of the major academic areas in which the university's research capacity is to be strengthened.
 - (c) A plan of university extension activities to cooperate in the improvement of basic and intermediate education in the pertinent zone or state and to contribute to solve problems peculiar to the region.
- 10.02 The project should not include components aimed at increasing the total number of first-year vacancies in the university, except for cases in which exceptional circumstances are evidenced and which have the prior approval of the Bank. However, enrollment may increase gradually as a result of higher passing, retention and internal efficiency rates.
- 10.03 The project should include the following components, in adequate proportion to the objectives sought and the particular needs of each university: training and specialization of teaching and administrative staff, hiring of consultants, construction and equipping of laboratories, libraries, classrooms, instructors' offices, administrative and general service areas of the university. The project should not include construction of student housing or hospitals.

- 10.04 Each project must reasonably meet the test of achieving the desired objectives at the least cost required. In particular, luxury buildings and decorations, high-cost structures and materials and purchases of equipment not essential for achieving the proposed aims must be avoided.
- 10.05 Each project must be accompanied by the information, projections and justifications normally required by the Bank for specific higher education projects. In particular:
- (a) The information must be sufficient for establishing the project's frame of reference and determining whether or not the above criteria on location of the university and its degree of need are met.
 - (b) Cost estimates must be included for each of the project's components, together with the pertinent computational basis, implementation schedules, equipment lists, complete preliminary drawings and final plans for a significant portion of the physical plant works.
 - (c) An analysis must be included on the demand for university-trained professionals, as well as an analysis of the socioeconomic rationale for the proposed investments.
 - (d) A technical-administrative unit responsible for coordinating the execution of the project in all its aspects, with sufficient full-time staff for these activities, must be established in each participating university.
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