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Appraisal of a Second Education Project Brazil

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Currency Equivalents
(As of October 10, 1974)

US\$ 1.00	=	Cr 7.13
Cr. 1.00	=	US\$ 0.140
Cr. 1,000	=	US\$ 140.25
Cr. 1,000,000	=	US\$ 140,252

Measures

1 m ²	=	10.76 sq. ft.
1 km ²	=	0.38 sq. mi.
1 hectare		2.47 acres

BRAZIL
SECOND EDUCATION PROJECT
BASIC DATA

<u>Population</u> (1970)	93.2 million
Annual growth rate (1960-1970)	2.9%
14 years and under	42%
Density per km ²	11.2
Labor force	29.5 million
Adult literacy rate (1970)	68%
<u>Enrollment ratios</u> (1971)	
Basic Education (grades 1-8)	79%
Secondary Education (grades 9-11)	18%
Higher Education (grades 12-17)	6%
<u>Higher Education Graduates per year</u>	
<u>per 100,000 population</u>	79
<u>Public Expenditure on Education as % of GNP (1972)</u>	3.0%
<u>Public Expenditure on Education as % of</u>	
<u>Total Public Expenditure (1972)</u>	12.0%
<u>Public Education Expenditure per capita (1972)</u>	US\$16

BRAZIL

APPRAISAL OF THE SECOND EDUCATION PROJECT

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This report is based on the findings of an appraisal mission which visited Brazil during January/February, 1974. The mission consisted of Messrs. A. Cespedes (general educator), R. Hemingway (technical educator), J. Besa (architect), K. Lee (economist), D. Klaus (economist), R. Harris (technical educator, Unesco), K. Anderson (architect, Unesco), N. Fisher (general educator, consultant).

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BRAZIL

APPRAISAL OF A SECOND EDUCATION PROJECT

SUMMARY AND CONCLUSIONS

i. This report appraises a project for the implementation of a national education reform at the basic and secondary levels of education in eight north-northeast states of Brazil. These states, henceforth referred to as the Project States, are Amazonas, Para, Maranhao, Piaui, Rio Grande do Norte, Paraiba, Alagoas and Sergipe. The main objective of the project is to support the federal government's effort to assist these poorer states of Brazil in their efforts to implement the national education reform aimed at improving efficiency and relevancy of their education systems and their priority education programs that include expansion of educational opportunities. While the project would help to alleviate shortages of technicians and skilled labor in the Project States, it would also help to correct imbalances in educational opportunities that have developed between these poorer states and other more developed ones in the country. Further, it would assist the Project States in establishing a sound educational base that would be flexible and responsive to their needs and in strengthening the educational planning units at national and state levels.

ii. This would be the Bank Group's second education loan designed to support priority needs of the planned reform of the Brazilian education system. The first Bank Loan (755-BR), for US\$8.4 million in 1971, supported the expansion and/or improvement of 16 federal institutions for the training of industrial and agricultural technicians at the secondary and post-secondary levels. Implementation of that project is expected to be completed in 1975.

iii. In 1971 the Federal Government enacted a comprehensive education reform law. Targets for the implementation of this reform were first provided in the 1972-74 educational development plan and were later amplified in the 1975-79 Plan. The reform basically consists of a change in the structure of the education system and a change in the school curricula to make them more relevant to national and state socioeconomic needs. The reform will integrate the primary (grades 1-4) and lower secondary (grades 5-8) levels into a basic education cycle (grades 1-8), and secondary level education will consist of grades 9-11. Under the reform, programs affording students the opportunity to develop their practical skills in such areas as industrial arts, agriculture and home economics will be introduced in the last four years of the basic cycle; diversified work-oriented programs, adapted to state manpower training requirements, will be introduced at the secondary level. However, because of the severe human resource constraints in the Project States the reform would have to be implemented at a slower pace than currently conceived by the federal government. The federal government, however, is prepared to provide financial resources to the states to implement the reform at a rate consistent with the states' ability in terms of administrative and human resources to absorb these funds.

iv. The state governments are responsible for implementing the reform measures and meeting the enrollment targets set by the Ministry of Education. But as action at the state level is determined largely by each state's own administrative and financial constraints, the federal government is faced with difficulties and challenges in getting the reform implemented in the poorest states of the north-northeast region, where the education systems are the least developed and most deficient. The proposed project would assist these states in commencing a systematic implementation of the education reform.

v. Educational development in the Project States lags dramatically behind the rest of the country. Illiteracy is as high as 60% and about two-thirds of the labor force has less than one year of schooling. Enrollment ratios in basic education vary from 47% to 70% of the respective age group compared with a national average of 79%. The respective ratios for secondary education average 10% for the Project States versus a national one of 18%. In primary education, 70-75% of all schools have only one room, used in three or even four shifts. Teacher qualifications are very poor; in the municipalities, only 20% of the teaching staff is qualified. The curricula at the secondary level are academic and do not prepare students for entry into the labor force. The Project States lack the sound educational base which is a pre-requisite for the preparation of middle-level manpower required for the development of their modern sectors. While concerted efforts have been undertaken to meet the more immediate manpower needs through non-formal training, gradual implementation of the education reform would help overcome the weaknesses of the formal education system and meet long-term objectives for improvement of the system.

vi. The scope and extent of the proposed project have been constrained by the Project States' financial and human resource limitations that militate against rapid implementation of the reform in these states. While the main objective of the project is to assist the qualitative improvement of the Brazilian education system, it would also contribute to correcting regional imbalances on educational opportunities particularly at the second level. Most of the project institutions are located in the urban areas and middle-sized towns of the states. This location would allow for better monitoring of the application of the new curriculum, the effectiveness of the teacher training programs to be financed within the project and of maintenance and logistic support. The project schools will also function as "nuclei institutions" to be fed by satellite schools which are mostly located in poor neighborhoods. The complex institutional, teacher training and financial requirements of the implementation of the reform in smaller urban-rural areas in these regions will be analyzed by more detailed regional studies, to be organized within this project and which may form the basis for identification of possible future Bank projects. The project would include the following items:

- (1) Construction, furniture and equipment:

(a) Basic Education

- 10 basic-level schools (grades 1-8);
- 5 common facilities centers for the teaching of practical subjects and science to students in grades 5-8 in surrounding satellite schools.

(b) Secondary Education

- 19 secondary schools "colegios" (grades 9-11);
- 12 common facilities centers for the teaching of work-oriented courses to students (grades 9-11) in surrounding satellite schools.

- (2) Intensive training programs for the teaching staff (2,200 teachers) and administrative staff (about 300 administrators) of the project institutions.
- (3) Related technical assistance, comprising 20 man-years of specialist services and 80 man-years of fellowships for local staff.
- (4) A school facility and school mapping survey and pre-investment studies to assess the institutional, teacher and financial requirements for implementation of the education reform, particularly in rural areas of the north-northeast region.

vii. The project institutions would provide a total of 27,790 student places, of which about 9,310 would be in basic and 18,480 in secondary education. The total number of students served (in multiple shifts) would be about 71,580. At the basic level, the project will contribute marginally to enrollment growth but it will assist the state governments in establishing the first fully integrated basic education schools in their states, for future evaluation and replication. At the secondary level, the project would increase the present enrollment in the project states by about 25% and provide by 1980 about 15% of the secondary enrollments with the reform curriculum. All project institutions would also be used outside school hours by other community groups and organizations for literacy courses and adult skill training programs.

viii. The basic education schools and centers would have 9,310 student places and serve about 23,820 students. The schools would be located in poor neighborhoods of the Project States' capital cities and in isolated middle-sized towns where there are severe shortages of education facilities. The schools would have suitable facilities for implementing the new curriculum and the centers would provide the practical facilities required for the teaching of practical subjects to a total of 20 existing basic schools now completely lacking such facilities needed for adopting the new curriculum. The students from the satellite schools will spend 7-8 hours per week in the center and with proper scheduling of classes it would enable the satellite schools to increase their enrollments by about 30%. A total

of about 3,000 students would graduate annually from grade 8 by 1980, of whom about 60% would proceed to higher levels of education and non-formal training, while the remainder would seek employment in or out of their home states.

ix. The proposed schools and centers at the secondary level of education would be the first such state institutions implementing the reform at this education level in the states. Like the basic education schools, these facilities would also be located so as to serve the more underprivileged communities in the capital cities and middle-sized towns of the Project States. They would provide 18,480 student places and serve a total of about 47,760 students. About 7,500 students would graduate annually by 1980, of whom about two-thirds are expected to be absorbed by the labor market (in or out of their home states). The curriculum to be implemented in these schools will have a common-core program of general education and diversified work-oriented courses in the areas of construction, commerce and industry. The schools would provide the students with some basic skills and practical knowledge for a wide range of middle-level occupations. The proposed centers would serve a total of about 45 satellite schools. The intensive use of the centers, through multiple shifts, would permit significant economies in capital investments per student and in the operation of the centers.

x. The proposed project includes the cost (US\$2.5 million) of intensive in-service training programs for about 2,200 new teachers and about 300 administrative staff to be employed in the project institutions and satellite schools. These programs are necessary to overcome existing shortages of qualified teachers. They would be organized and implemented by specialists, also to be provided under the project. The project includes the cost (US\$1.4 million) of additional technical assistance (20 man-years of specialist services and 80 man-years of fellowships) in the areas of education planning, curriculum development, rural education, and school construction. All the specialists would work in close collaboration with the Federal Government and the participating Project States.

xi. The project also includes a provision for comprehensive and systematic studies that would help the government assess the education needs of the poorer states and lead to the formulation of specific investment programs. These studies would involve a school facility and school mapping survey, assessment of the institutional and teacher training requirements, cost implications for implementing the reform objectives and enrollment targets in the rural areas, and the means of achieving greater efficiency in the education system, particularly with regard to the over-aged student groups in basic education. An amount of US\$500,000 has been included in the project to cover the cost of these studies and initial preparation expenditures in connection with a possible third education project in the rural areas of the poorer states.

xii. The total project cost is estimated at US\$58.7 million, with a foreign exchange component of US\$6.7 million. The proposed loan of US\$23.5 million would be equivalent to 40% of total project costs and would finance

all the foreign exchange costs and 32% of the local costs. The Federal government would finance another 40% and the state governments would finance 20% of the total project costs. Base cost estimates are expressed in prices as of September 1974, to which a contingency allowance of 35% has been added.

xiii. PRODEM, the federal agency responsible for coordinating and supervising implementation of the first education project, would also be responsible for the proposed second project. This agency would supervise project implementation, coordinate activities with the ministries and states involved in the project, and provide liaison with the Bank. PRODEM would establish regional offices in each state consisting of a project architect and an assistant to assist in project implementation and supervision. The states would appoint counterparts to PRODEM staff. PRODEM would provide the states with basic information on procedures for properly carrying out the project and would prepare the terms of reference and basis for selection of consultant architects who would prepare the designs of the project institutions in each state. The Federal Government will sign subsidiary agreements, satisfactory to the Bank, with the states participating in the project to ensure its proper implementation.

xiv. Suitable sites for most of the project institutions have already been selected. Contracts for civil works, furniture and equipment would be awarded after international competitive bidding in accordance with the Bank's guidelines for procurement. However, Brazil has a competitive local construction industry capable of carrying out the project and not many foreign contractors are likely to participate. Furniture and equipment would be grouped to form sizable packages for bulk purchasing. Items that cannot be grouped into packages of at least US\$5,000 would be procured in accordance with the government's regular procurement procedures and would not exceed in aggregate the equivalent of US\$600,000 (corresponding to about 5% of the total cost of furniture and equipment). Domestic manufacturers (whose bids contain components manufactured in Brazil equal to at least 50% of the value of the bid as defined in accordance with Brazilian law) would be allowed a preferential margin of 15% of the c.i.f. price or the prevailing tariff, whichever is lower. PRODEM would be responsible for preparing and issuing tenders, evaluating bids and awarding the contracts in consultation with the Bank. Retroactive financing, not exceeding US\$300,000 is recommended for expenditures from July 1, 1974 in respect of professional services and technical assistance costs. The project would be carried out in about 4-1/2 years and the construction would be completed in about 3 years.

xv. The proposed project constitutes a suitable basis for a Bank Loan of US\$23.5 million to the Federal Government of Brazil for a period of 30 years, including a grace period of ten years.

BRAZIL

APPRAISAL OF A SECOND EDUCATION PROJECT

I. INTRODUCTION

1.01 The Government of Brazil has requested Bank assistance in supporting its efforts to assist eight states in the north-northeast region to implement their education development programs. These states, henceforth referred to as the Project States, are Amazonas and Para in the north and Maranhao, Piaui, Rio Grande do Norte, Paraiba, Alagoas and Sergipe in the northeast. Their programs aim at extending educational opportunities and the national requirements for reform of the structure and curricula of education, particularly at the primary and secondary levels of the formal system.

1.02 The proposed project would assist in the financing of 46 priority state educational institutions at the basic (grades 1-8) and secondary (grades 9-11) levels and related teacher training and technical assistance. It would help to alleviate shortages of middle-level manpower in the Project States and correct imbalances in educational opportunities that have developed in the past, particularly between these poorer states and other more developed ones in the country. Further, it would assist the Project States in establishing a sound educational base that would be flexible and responsive to their needs. The total cost of the project, for which a Bank loan of US\$23.5 million equivalent is proposed, is estimated at US\$58.7 million, with a foreign exchange component of about US\$6.7 million.

1.03 This would be the second Bank loan to assist the Brazilian Government in meeting high priority needs in the education sector. Loan 755-BR, signed in June 1971, provided US\$8.4 million to support the expansion and/or improvement of 16 federal institutions for the training of industrial and agricultural technicians at the secondary and post-secondary levels. After some initial delays, implementation of the project is proceeding satisfactorily. Its completion is expected by the end of 1975.

1.04 The initial discussions with the government on the possible composition of a second education project commenced in May 1973 when a reconnaissance mission agreed with the government on the possible items to be included in the proposed project for preparation and appraisal. The project was prepared by local education officials and reviewed by a Bank preappraisal mission in October 1973. It was appraised in January/February 1974 by a mission composed of Messrs. A. Cespedes (general educator), R. Hemingway (technical educator), J. Besa (architect), K. Lee (economist) and D. Klaus (economist) of the Bank, and Messrs. R. Harris (technical educator, Unesco), K. Anderson (architect, Unesco) and N. Fisher (general educator, consultant). The mission split into two self-contained groups and visited all of the project states. In June 1974, a post-appraisal mission reviewed the outstanding issues with officials of the new government and updated the project cost estimates on the basis of newly collected data.

II. BACKGROUND

2.01 Despite an impressive performance of its overall economy in recent years, Brazil is experiencing serious regional imbalances in its economic and social development. The Project States account for about one-third of the total population of 93.2 million (1970) but produce only about 15% of the country's total output. As much as two-thirds of their labor forces earn less than the lowest minimum wage (US\$25 per month), leading to very low per capita GDP of about US\$90-245, compared with the national average of US\$355 in 1969.

2.02 The low income base of most of the Project States has made them highly dependent on federal fund transfers, particularly for the provision of social services such as health and education. Moreover, difficulties in providing adequate educational services are compounded by the large school-age groups (on average, 21% of the population is between 7 and 14 years of age and 11% between 15 and 19), by the lack of essential physical infrastructure, particularly in the Amazon region and in the neighboring states of Maranhao and Piaui and by the weak administrative infrastructure in these states.

2.03 The striking poverty in the Project States is partly a reflection of the socio-economic structure and of insufficient investment in human resource development. Although the industrial sector has expanded rapidly, it accounts for no more than 10% of total employment. With more than 60% of the labor force engaged in traditional agriculture, the overall under-employment rate in the north-northeast region reaches 21%, as against 14% for Brazil as a whole. Regional imbalances have also prevailed in the development of human resources. Illiteracy is as high as 60% in the Project States, compared with about 30% for the country as a whole. About two-thirds of the labor force in the Project States have had less than one year of schooling; the country's average is one-third.

2.04 Having developed little more than the lower basic level of education (grades 1-4), the Project States lack the training facilities and the sound educational base to meet critical manpower requirements of their small but growing modern sector. Due mainly to an upsurge of economic activity in recent years, shortages of suitably trained technicians and of skilled labor have now developed in this region. While the proposed project would help to alleviate these shortages in manpower, it would also help to establish a sound educational base in the Project States.

2.05 The government believes that poverty, which afflicts most severely the north-northeast region, can be ameliorated only if high rates of economic growth are sustained, permitting absorption of the country's economically marginal population into the modern sector of the economy. A large number of programs in the productive and social sectors has been initiated to meet this objective. However, the effort in the north-northeast seems unbalanced, with a disproportionate emphasis on investments in physical infrastructure.

Hence, to broaden the benefits of economic growth and increase access of this region's population to the modern sector of the economy at large, the government has now given very high priority to the improvement of education, including development of new funding mechanisms to increase education finance. In the past, because of inadequate financing, and lack of an efficient administrative and managerial system at the state level, educational development has lagged behind in the north-northeast states. The proposed project is designed to reinforce the government's effort in these states.

III. EDUCATION AND TRAINING

Formal Education - Present Structure and Education Reform

3.01 The structure of education in Brazil is in process of change (Chart 1). The present structure consists of four years of primary and seven years of secondary education, divided into two levels: the lower or "ginasio" (grades 5-8) and the upper or "colegio" (grades 9-11). Higher education is offered in courses of one to six years in post-secondary institutions and universities. Implementation of the 1971 education reform law will integrate the primary (grades 1-4) and lower secondary (grades 5-8) levels into a basic education cycle (grades 1-8), and the secondary level of education will consist of grades 9-11 (Chart 1). The new education structure is an evolution of the government's introduction in 1968 of the "ginasio polyvalente," a lower-level secondary school offering general education and also an opportunity for students to develop practical skills in such areas as industrial arts, agriculture and home economics. The reform makes mandatory over the long term the inclusion of such courses in the last four years of basic education; furthermore, it introduces diversified and work-oriented programs at the secondary level, to be adapted to state manpower and training requirements. Along with improvements in overall planning, administration, supervision and staffing, these developments are designed to make the education system more cost-effective and responsive to national and state socio-economic needs.

Non-Formal Education and Training

3.02 Many organizations are engaged in training programs for various groups of the population. They operate in the fields of literacy, community development, vocational, technical teacher and management training (see Appendix I). A dynamic national campaign aimed at all illiterate persons achieving functional literacy has been undertaken by the Brazilian Movement for Literacy (MOBRAL). This organization, which reaches every municipality in the country, devotes more than 40% of its resources to the north-northeast region where most of the illiterates live. A large number of the non-formal training programs are financed by the Intensive Program for Preparation of Industrial Labor (PIPMO), a very flexible organization whose objective is to identify both the urban and rural training needs of the states and finance short training programs. MOBRAL and PIPMO are autonomous agencies under the

Ministry of Education; they own no physical training facilities and their programs are conducted mainly at night in schools or in other public and private buildings and training facilities.

3.03 Other prominent non-formal training organizations are the National Service for Industrial Apprenticeship (SENAI) and National Service for Commercial Apprenticeship (SENAC), which operate their own well-equipped and maintained facilities in each state. Priorities for vocational training are determined through studies commissioned by these two organizations or by PIPMO and through the training requirements of local firms. The National Center for Vocational Training (CENAFOR), an autonomous agency located in Sao Paulo, provides facilities through seven regional centers for the training of technical teachers, instructors and school management personnel employed in the technical schools and training centers of the Ministry of Education and often of other private and public organizations.

Administration of the Formal System

3.04 The administration of education in Brazil is decentralized, with authority shared by three governmental levels -- federal, state and municipal. Their functions and areas of authority often overlap. The principal thrust of constitutional and legislative measures concerned with education has been to assign policy-making, planning and coordination authority to the federal level, leaving to the states and municipalities the main responsibility for education administration (excluding most of the institutions of higher learning). Financial responsibilities are shared by both the federal government and the states. In this context, the Federal Council of Education develops overall policy and the Ministry of Education allocates federal resources to support the implementation of such policy. The states have the main administrative responsibility for primary and secondary education, but the municipalities share this responsibility for primary education. The universities are administratively autonomous institutions.

3.05 In order to assist the state in carrying out federal and state policies, the Ministry of Education through each of its Departments, particularly those concerned with educational planning and primary and secondary education, maintains direct contact with state education authorities, largely through the provision of technical assistance. However, in the past such assistance has been sporadic in nature. The Federal Government and the states, particularly the poorer states, intend to strengthen their planning units and establish closer liaison between the Planning Office of the Ministry of Education and the states in order to bring about better integration of their planning efforts. The proposed project would provide technical assistance to assist in this respect.

3.06 Lacking competent management and adequate resources, which are essential to efficient decentralization of administration, it is difficult for the Federal Government to assure the proper and timely implementation of nationwide qualitative and quantitative reforms under the decentralized system. The federal authorities must rely on the states and municipalities to implement federally initiated policies and guidelines. Action at the state level has

been determined largely by the states' own administrative and financial constraints; thus when a substantial financial contribution has been attached to federally originated policies the states have been more enabled to comply in due time. In consequence, adoption of national policies in fundamental areas such as enrollment expansion, distribution of educational opportunities, structure of education, curricula reforms and improvements in teaching conditions have occurred in varying degrees and at different times throughout the country; the poorer states in the north-northeast regions lag substantially behind the other states.

Education Development Strategy

3.07 The objective of federal education policies in the last few years, and reiterated in the educational development plans of 1972-74 and 1975-79, has been the expansion of the formal and non-formal programs at state level, combined with initiation of a new structure and reform of the curricula of the formal education system (para. 3.01). This two-pronged strategy has not been overly successful, mainly because few states have had both the financial resources and requisite managerial and technical competence to produce well designed programs, adapted to state needs, for its implementation. Federal subventions and support to the poorer states have not been adequate to overcome the shortfalls.

3.08 The 1975-79 educational development plan is in essence an amplification of proposals and programs included in the 1972-74 Plan. It proposes major human resource development programs and establishes targets for implementing the education reform and enrollment targets which are to serve as the framework for state educational development policies. The programs and basic targets proposed in the plan include, inter alia: (a) an increase in the literacy rate from about 68% to 95%; (b) expansion of basic education from 84% to 100% of the 7-14 age group; (c) expansion of secondary school facilities to increase the enrollment ratio of the 15-17 age group from 18% to 30%; (d) introduction of practical subjects at the basic education level and work-oriented courses at the secondary level; (e) rationalization and improvement of education administration, supervision and planning at both the federal and state levels; (f) development of new funding mechanisms and new criteria for an optimum deployment of financial resources, including the transfer of funds from the federal government to the states and municipalities; (g) expansion of agricultural education and of adult literacy, education and skill programs; (h) establishment of post-secondary technician level programs; and (i) experimentation with and more rapid introduction of modern education technology as appropriate.

3.09 In its major programs of human resource development and statements on objectives and targets, the 1975-79 Plan is overly ambitious in its timing, due to the fact that the proportion of resource allocation to the various programs is not reconcilable with the proposed enrollment targets for the formal system. The Plan also fails to provide guidance to the states on how they should respond in meeting the additional costs required if the 1979 targets are to be achieved. The objectives and targets set by the Plan are national, and it is evident that they may have to be modified and programs

re-phased (perhaps by 1985-90) in accordance with the states' ability to absorb new funds and their institutional and administrative constraints. Presently, the Federal Government is adjusting the targets, particularly the enrollment targets at the basic and secondary levels, and is prepared to develop new funding mechanisms to ensure that the state governments would have sufficient resources to implement the reform at a rate consistent with their absorptive capacity and human resource constraints. Given this flexibility along with sound planning and programming and additional resources, the poorer states could find the Plan a useful guide for action. In fact, the proposals for capital investment in the states over the next five years reflect such a flexible approach. In going only part way to meet the enrollment needs of the Project States, the proposed project is in line with these targets and would lead to a significant new flow of the resources required for human resource development in the poorer states.

3.10 Consistent with the national priorities in the sector, the Project States' educational development strategy attaches high priority to implementing the reform with respect to structure and programs at the basic and secondary education levels. Actual implementation has been limited to the basic level. The proposed strategy of almost all the Project States in carrying out the reform is to concentrate their limited resources in the more urbanized areas and to leave the educational development of the rural areas exclusively to local authorities. This allocation of resources is efficient in the medium term because it allows the financially weaker local authorities to concentrate on the needs of a smaller proportion of their population. However, it is still inadequate. The Federal Government is interested in correcting inequities in educational opportunities in the long run and therefore intends to act, through special rural education projects, to help meet the education/ training needs of the rural communities. Planning of comprehensive investment programs will be facilitated by systematic studies such as a school facility and school mapping survey and assessment of the institutional, teacher and financial requirements for properly implementing the reform in the rural areas. These studies are included in the proposed project and were discussed during negotiations (para. 5.10).

Education Problems and Needs of the Project States

A. Basic Education (Annex 2)

3.11 The lag in educational development in the north-northeast region, compared with the rest of the country or even the national average, is dramatic. In 1971, enrollment for the 6-14 age group was 79% in the country as a whole, while in the Project States it ranged between 70% in Piauí and only 47% in Amazonas. Within states there is an equally wide gap between urban and rural areas. There is an acute shortage of functionally designed and appropriately equipped places to meet expansion and curriculum needs; one-room schools account for 70-75% of all schools offering grades 1-4. This has led to over-utilization of existing facilities, with the majority working on a two-shift basis, many on three shifts and some even on four. As a result, sessions are

short (about 2-4 hours a day). The educational value of attendance at a three-shift school is minimal over a four-year course and more so at a four-shift school. With three and four shifts, resources not only are being wasted but are not available for adult and community purposes. Similar problems are being encountered in the schools offering grades 5-8.

3.12 The high proportion of unqualified teachers (over 50%) also contributes to the poor quality of education at the basic level, and compares unfavorably with 37% for Brazil as a whole. Paradoxically, the present teacher shortages exist in the face of a surplus of graduate teachers; this is because salaries are low, and also because the teacher training course is sought by students as an easy route to higher education. Thus, only 45-50% of the graduates go into teaching.

3.13 The above-mentioned factors reduce the efficiency of the education system. The dropout rate for the first four grades is about 80% in the Project States, with most dropouts occurring in the first grade and in rural areas. Efficiency could be improved if, in addition to corrective action with regard to the deficiencies already mentioned, a serious attempt were made to rationalize student flows for the different age groups by introducing appropriate programs to meet the specific needs of the over-age students who now occupy more than a third of total student places in the first four grades and about two-thirds of those in grades 5-8. Significant experiments offering these students accelerated supplementary programs are being undertaken by MOBRAL with encouraging results: the examination passing rates of these students are about double the national average. Clearly, the need for such programs and the evaluation of the current experiments for possible replication should be systematically explored. The government has expressed interest in pursuing this through a study to be included in the proposed project.

B. Secondary Education (Annex 3)

3.14 The problems encountered at the secondary level of education (grades 9-11) are likewise acute. The nationwide participation rate of the relevant age group (15-17 years) is low, about 18%. In the Project States the rate is much lower, 10%. These participation rates include about two-thirds over-age students. Moreover, the enrollment distribution between academic and practical subjects is unbalanced. This is particularly acute in the Project States, where about three-quarters of the students seek the academic and teacher training streams.

3.15 Nationwide, and especially in the Project States, the shortage of facilities has prevented the sound development of secondary education. The existing schools are used intensively in two or three shifts, but the facilities and materials for science and practical courses are extremely limited. Most teachers are teachers of academic subjects. The state school systems have to compete with the higher salaries which qualified practical-subject teachers can earn in non-teaching occupations. As a result of all these factors, traditional rote-learning and textbook recitation dominate the teaching-learning process. These circumstances have adversely affected the quality of education and the efficiency of the system and underscore the states' inability to correct the situation with their own resources.

3.16 Implementation of the 1971 education reform has proceeded the most slowly at the secondary level, due largely to the high capital and operating costs of the required specialized facilities (workshops and laboratories). To conserve their resources, some of the Project States have made arrangements with the Federal Technical Schools in the states and with SENAI and SENAC state organizations for specialized technical and commercial courses to be given in the facilities of those entities to at least some of the students of the academic secondary schools. However, these efforts are constrained by the limited availability of such facilities and by the entities' commitments to ongoing regular programs; furthermore, the efforts are necessarily limited to the large towns, usually state capitals, where the facilities are located.

3.17 An important role in implementing the education reform at the secondary level will be undertaken by the new and expanded Federal Agricultural Colleges and Federal Technical Schools provided under the first education project (Loan 755-BR). These institutions will be used in the training of teachers for practical subjects and will make their workshops and laboratories available to students of the traditional "colegios" in the surrounding areas. Arrangements to this effect are being worked out between the institutions concerned and the state secretariats of education.

Teacher Education

3.18 The problem with regard to teacher qualification, at both the basic and secondary levels, is twofold: first, it is a question of how to create appropriate incentives for service; second, the quality of the teacher training programs, pre-service and in-service, must be improved and made relevant to the requirements of the reform curricula of basic and secondary education of all types. Also, the existing in-service programs need to be further expanded, intensified and broadened in scope to cover adequately the new subject areas being introduced into the schools. Trained teachers have to be retained and re-oriented and the masses of untrained teachers upgraded.

3.19 The question of teacher education in the new context of educational reform has such major implications in terms of supply and demand by level and discipline, education costs, content of studies, structure of training and institutional organization, that a detailed study of this sub-sector's development is necessary. The government recognizes the need for such a study and it is included in the project.

IV. EDUCATION FINANCE

Overview

4.01 The multiplicity of sources, transfers, earmarked funds and expenditures has given the public education financing system in Brazil a complex character. In many of the poorer states, it is not always possible to identify the sources of funds spent by level or type of education; this has impeded full analysis of education finance in these states.

4.02 The **Federal Government** bears the greatest burden for education expenditures in the north-northeast states, its transfers amount to more than half of these states' expenditures on education and over three-fourths those of the municipalities (Annex 4). The federal transfers are being effected mainly through three federally established revenue-sharing and transfer programs: the Education Salary Fund, the Participation Fund and a Special Fund. ^{1/} The funds are distributed to the states according to a composite formula which favors the most populous, least educationally advanced and poorest states; by design, they involve a net transfer of resources to the north-northeast states.

Project States

4.03 The Project States allocate almost two-thirds of their education expenditures to the first four grades of basic education, leaving a relatively very small share for the subsequent levels of education. Such a high relative allocation would not be necessary, however, if efficiency of the system were improved. The potential savings in recurrent and capital expenditures from rationalizing student flows could help finance much of the expansion and reform of education (para. 3.13).

4.04 The significant disparity in education expenditures between the Project States and the rest of Brazil is reflected in the per capita education expenditures: they are between US\$4 and US\$6 for the project states versus US\$15 for the national average. Recurrent unit costs in the Project States are half or even one-third of those prevailing in such high-income states as Rio Grande do Sul and Sao Paulo, and are very low in absolute terms when compared with similar expenditures in other education systems. Factors accounting for these differences are mainly the very low teacher salaries, the great proportion of unqualified teachers and the lack of education materials. The situation in the municipalities is much worse and teacher salaries vary from one-half to one-tenth of the state salaries for teachers, hence the overwhelming proportion of the unqualified teaching staff (80%) are in rural areas (para. 3.12).

Finance of the Education Reform

4.05 The overall recurrent cost implications of the reform for the poorer states, particularly in the rural areas, are yet to be systematically determined. The recurrent costs per student would almost triple at the basic level and about double at the secondary level if more qualified teachers were to be employed (as the reform proposes) and were paid in accordance to their qualifications, and if schools were supplemented with the required education materials and funds for maintenance of equipment and facilities. Also increased capital

^{1/} See Appendix II. For a detailed analysis of education expenditures, education institutional arrangements for education finance, and financing of non-formal education/training in the northeast, see The Economic and Social Development of Brazil, Vol. V, "Employment and Education in the Northeast" (IBRD No. 38-BR, March 12, 1973).

expenditures associated with the enrollment expansion and implementation of the new curriculum are estimated to add about 30% to costs in the traditional system. However, such cost increases can only be feasible in the north-northeast states, including the Project States, if substantial further assistance of the Federal Government is extended to the poorer states. Still, administrative and human resource constraints might require a slower pace in the implementation of the education reform than is currently conceived by the federal government.

4.06 An examination of alternatives shows that only a gradual and modest implementation of the reform can be accommodated within the present education financing arrangements. This accounts for the limited scope of the proposed project. If the state governments attempted implementation of the reform on their own and on a larger scale -- for example, to affect about one-third of basic and secondary enrollments -- they would need to devote 26% of their total expenditures to education. This would represent almost a 50% increase over their present share of 17%. In order to implement the reform on this scale they would require almost 100% financing by the Federal Government or other agencies of the capital expenditures associated with such a reform, which would amount to US\$83 million annually.

4.07 Implementation of the reform on such a scale would not be financially feasible because of competing claims for state resources by other sectors. The state governments cannot implement the reform under present institutional and federal transfer arrangements. An assessment of the pace of educational development and scope of the implementation of the reform in these poorer states, and particularly in the rural areas, will be intensively and systematically reviewed by the Government and would be the subject of a study to be undertaken under the proposed project (para. 3.10). The Federal Government provided assurances that it would take necessary steps to ensure that the state governments possess sufficient financial resources to implement the education reform (including both capital and recurrent expenditures) at a pace consistent with the states' ability in terms of administrative and human resources to absorb these funds.

V. THE PROJECT

Project Strategy

5.01 The proposed project is designed to support priority needs of the reform of the Brazilian education system in the Project States. While the main objective of the project is to assist in the planned qualitative improvement of the Brazilian education system, it would also contribute to correcting the regional imbalances in educational opportunities, particularly at the second level, which have developed over the years. It would provide urgently needed facilities at the basic and secondary levels in eight states of the north-northeast region -- the northern states of Amazonas and Para and the northeastern states of Maranhao, Piaui, Rio Grande do Norte, Paraiba, Alagoas and Sergipe -- and for communities and target groups presently underprivileged in this respect. Further, it would assist in establishing a sound educational

base and in alleviating the shortages of technicians and skilled labor in the Project States. The proposed project institutions are concentrated in the poorest states of the country with per capita incomes ranging from US\$90 to US\$245.

5.02 Most of the project institutions are located in the urban areas and middle-sized towns of the states. This location would allow for better monitoring of the application of the new curriculum, the effectiveness of the teacher training programs to be financed within the project and of maintenance and logistic support. The project schools will also function as "nuclei institutions" to be fed by satellite schools which are mostly located in poor neighborhoods. The complex institutional, teacher training and financial requirements of the implementation of the reform in smaller urban-rural areas in these regions will be analyzed by more detailed regional studies, to be organized within this project and which may form the basis for identification of possible future Bank projects. The project complements USAID assistance to other states in implementing the education reform at the basic level, and IDB support and Bank Loan 755-BR for technical and agricultural education. The scope and extent of the project have been constrained by the severe state financial and human resource limitations that prevent rapid implementation of the education reform.

Elements of the Project

5.03 The proposed project comprises:

- (i) construction, furnishing and equipping of educational institutions as outlined in the following table:

<u>Types of Institution</u>	<u>Project States</u>								<u>Student Places and Enrollments</u>	
	Alagoas	Amazonas	Maranhao	Para	Paraiba	Piaui	Rio Grande do Norte	Sergipe	Student places	Enrollments/Students Served
<u>(a) Basic Education</u>										
10 Basic Level Schools (Grades 1-8)	1	2	1	2	1	1	2	-	8,010	16,020
5 Common Facilities Centers (Grades 5-8)	1	-	1	-	-	-	-	3	1,300	7,800
Sub-total	2	2	2	2	1	1	2	3	9,310	23,820
<u>(b) Secondary Education</u>										
19 Secondary Schools "Colegios" (Grades 9-11)	3	1	3	1	3	3	3	2	12,000	24,000
12 Common Facilities Centers (Grades 9-11)	2	1	1	1	-	2	1	4	6,480	23,760
Sub-total	5	2	4	2	3	5	4	6	18,480	47,760
Total	7	4	6	4	4	6	6	9	27,790	71,580

- (ii) intensive training programs for the teaching staff (2,200 teachers) and administrative staff (about 300 administrators) of the project institutions and satellite schools;

- (iii) related technical assistance, comprising 20 man-years of specialist services and 80 man-years of fellowships for local staff; and

- (iv) a school facility and school mapping survey and pre-investment studies to assess (i) institutional, teacher training, non-formal training and financial requirements for the implementation of the education reform, particularly in rural areas of the north-northeast region, and (ii) post-secondary technician training requirements.

Basic Education

5.04 The project provides 10 new basic education schools (grades 1-8) and five common facilities centers (grades 5-8). They would have a capacity of 9,310 student places but would service about 23,820 because of multiple-shift use of the facilities. Although contributing only to marginal enrollment growth, this project item will assist the state governments establish the first basic education schools in their states implementing the reform, for future evaluation and replication. They would also be used after school hours by other community groups and organizations such as MOBRAL for literacy courses and PIPMO for adult skill training programs and assurances to this effect were obtained from the government. A total of about 3,000 students would graduate from grade 8 annually by 1980, of whom about 60% would proceed to higher levels of education and non-formal training, while the remainder would seek employment in or out of their home states.

New Basic Schools: These 10 schools would be located in poor neighborhoods of the capital cities of the Project States and in isolated middle-sized towns where there are severe shortages of education facilities. The schools, averaging in size about 800 student places, would contain laboratories and workshops for the teaching of practical subjects such as industrial arts, commerce, agriculture and home economics. The 10 schools would have a total of 8,010 student places; they would be used on a double-shift basis by 16,020 students.

Common Facilities Centers: These 5 centers, comprising workshops, laboratories and related facilities, would be located so as to enable a total of 20 existing basic schools lacking facilities to adopt the new curriculum in grades 5-8. With an average capacity of 260 student places, the centers would provide a new and economic approach for implementing the government's policy of introducing practical subjects in existing basic schools where, because of the small size of the schools, the provision of such facilities to each school would be uneconomic. Furthermore, the use of these centers would free classroom space for the satellite schools which would enable them to increase their enrollments by 30%. The students would spend an average of 7-8 hours per week in a center and the remaining time in a satellite school. The centers would have about 1,300 student places; however, because of their intensive use (six shifts), they would have a total enrollment of 7,800 students. The supervisory staff of the state secretariats of education would be responsible for the supervision of their use.

Secondary Education

5.05 Like the basic education schools, the 19 new secondary schools and 12 common facilities centers would be located so as to serve the more underprivileged communities in the capital cities and middle-sized towns of the Project States. They would be the first state schools implementing the reform at this level of education. Their facilities would also be used after school hours for literacy and non-formal training programs for out-of-school youths and adults by such organizations as MOBRAL and PIPMO and assurances to this effect were obtained from the government (para. 5.04). The total capacity would be 18,480 student places and they would serve about 47,760, in multiple shifts. The provision of these facilities would increase the present secondary enrollments in the Project States by about 25% and enable at least about 15% of the enrollments in secondary schools to receive by 1980 education in accordance with the new curriculum. By 1980, a total of 7,500 students would graduate annually, of whom about two-thirds are expected to be absorbed by the labor market, in or out of their home states. A student tracer mechanism will be introduced in each state for project secondary school graduates to obtain continuous feedback on their school preparation.

New Secondary Schools: The proposed 19 new schools would be the forerunners in implementation of the new curriculum in the project states. The curriculum will have a common-core program of general education and diversified work-oriented courses in the optional areas of construction, commerce and industry. The schools would thus provide students with a broad base of knowledge and basic skills for a wide range of middle-level occupations. They would have a total capacity of 12,000 student places, for a total enrollment of 24,000 students, in two shifts, and an output of 7,500.

Common Facilities Centers: The proposed 12 centers would provide about 50 workshops for practical subjects and about 35 science laboratories to service some 45 small secondary schools to enable them to adopt the new diversified curriculum. The centers would also have resources for counselling and placement services. Each center would serve three to four satellite secondary schools and the number of student places in each would vary from 1,680 to 2,400, and the facilities would service about 23,760 students in four shifts. These large enrollments would permit significant economies in initial investments per student and in operations, due to intensive use of the teaching facilities. Furthermore, a more diversified program would be offered, adapted to each state's basic requirements for manpower training, and specialized staff could be used more efficiently. Overall coordination and supervision of the centers and satellite schools would be provided by the Department of Secondary

Education of each Secretariat of Education. In addition, there would be a coordinating committee that would include representatives of the satellite schools and the centers; it would deal with problems and issues of common concern to these institutions (e.g., scheduling, curriculum development and student guidance).

Training of Teachers and Administrative Staff

5.06 By 1980, the new teachers and administrative personnel needed to staff the project institutions and the satellite schools would be about 2,500, of whom some 1,000 teachers would be for technical and practical subjects. To overcome the existing shortages of qualified secondary teachers (paras. 3.12 and 3.15), the Project State governments are organizing short-term training seminars and workshops. However, a more systematic training program to meet the needs of the proposed project must be developed. This program should include the training and upgrading of not only teachers but also administrators and supervisors. In order to assist the Project State governments in strengthening their managerial capabilities and in upgrading the qualifications of their teaching and administrative staff, the project includes the cost of specially designed training programs (US\$2.5 million) for about 2,200 teachers and about 300 school administrators (Annex 5). The cost estimates are based on actual similar expenditures per teacher (about US\$1,000) in a similar USAID-financed training program currently in operation.

5.07 The abovementioned training programs would consist of courses of 800-1,600 hours duration and include refresher courses for teachers in the field of agriculture, science, mathematics, commerce, home-economics and industrial subjects. Courses for administrators would include educational planning, school administration and supervision, and curriculum development. These courses would be conducted in collaboration with the state universities, the operational engineering centers provided under the first education project, the federal technical schools (including eight provided under the first education project), and the regional centers of CENAFOR (para. 3.03). Some of the southern states (Guanabara, Sao Paulo, Rio Grande do Sul), where the education reform and institutional reorganization are more advanced than in the north-northeast region, would also assist in this in-service training through the provision of staff and possibly some facilities. The government has given assurances that within six months of the signing of the Loan Agreement it will submit a comprehensive staff development plan for the recruitment, selection and training of the teaching and administrative staff needed for the project institutions. The plan would also indicate the incentives that will be used to retain full-time qualified teachers in the project schools, so as to avoid the prevailing high turnover of qualified staff because of low salaries.

Technical Assistance

5.08 In order to assist the federal and Project States' governments in the implementation of the project and develop state human infrastructure for the long-term implementation of the reform, the project would include 20 man-years of specialist services (expatriates or Brazilians) and 80 man-years

of fellowships (Appendix III). The specialists would work in close collaboration with federal and state counterparts in such fields as education planning and management, education finance, teacher training, school construction and rural education. They would also collaborate with the human resources planning group of a UNDP/ILO/UNESCO project which is reviewing national manpower requirements and training programs. The cost of this technical assistance and fellowships is estimated at US\$1.4 million, including some US\$300,000 for field expenditures of the specialists and materials for training programs. Specialists to be financed by the proposed loan would be acceptable to the Bank and would be employed on terms and conditions agreeable to the Bank.

Pre-investment Studies

5.09 Formulation by the Federal Government of specific targets for the educational development of the north-northeast states, particularly in rural areas with the lowest enrollment ratios, and the resolution of various outstanding issues concerning the capacity of these states to implement the reform as currently articulated in the 1975-79 Plan (para. 3.07) require comprehensive and systematic studies that would help the government to assess these states' education needs and lead to the formulation of specific investment programs. The need for such studies was discussed with Ministry of Education officials and it was agreed to include them in the project (para. 3.10). The government intends in the near future to appoint a Commission that will review the objectives of these studies in the context of national and state priorities and prepare proposals for their implementation. The Commission will remain in force for the articulation of the government's views on possible future Bank projects in rural education. Agreement has been reached with the government on the basic scope and design of the studies to be included in the project (see Appendix III). The project cost estimate includes US\$500,000 to cover the cost of the studies and initial preparation expenditure in connection with a possible third education project in the rural areas of selected states.

5.10 In summary, the proposed studies related with the education reform consist of a school facility and school mapping survey, extending the school inventory exercise that has already been undertaken in most states (para. 3.10); development of a program for achieving greater efficiency in the education system, particularly with regard to the over-aged student groups in basic education (para. 3.13); an assessment of teacher training and related institutional requirements (para. 3.18); and an assessment of the cost implications of implementing the reform objectives and enrollment targets in rural areas of the north-northeast states (para. 4.07). A study to determine the requirements for broader development of post-secondary technician programs in Brazil (para. 3.08) and formulate a plan for development of this level and type of education would also be included in the proposed project.

Cost of the Project

5.11 The cost of the project is estimated at US\$58.7 million equivalent (exchange rate US\$1.00 = Cruzeiros 6.9). The components, shown in Annex 6, are summarized below.

	<u>Cruzeiros (millions)</u>			<u>US\$ (millions)</u>			<u>% of Total</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
10 Unified Basic Level Schools (Grades 1-8)	56.2	5.9	62.1	8.1	0.9	9.0	15.4
5 Common Facilities Centers (Grades 5-8)	12.5	1.3	13.8	1.8	0.2	2.0	3.4
19 Secondary Schools "Colegios" (Grades 9-12)	98.8	10.4	109.2	14.3	1.5	15.8	28.9
12 Common Facilities Centers (Grades 9-12)	70.0	7.3	77.3	10.1	1.1	11.2	19.1
Project Administration	6.2	-	6.2	0.9	-	0.9	1.5
Technical Assistance	6.9	2.6	9.5	1.0	0.4	1.4	2.4
Teacher Training	<u>13.5</u>	<u>4.8</u>	<u>18.3</u>	<u>2.0</u>	<u>0.7</u>	<u>2.7</u>	<u>4.6</u>
Base Cost Estimates	264.1	32.3	296.4	38.2	4.8	43.0	74.1
Contingencies							
(a) Physical	26.4	3.2	29.6	3.8	0.5	4.3	7.3
(b) Price	67.1	8.5	75.6	9.7	1.2	10.9	18.6
Pre-investment Studies and Preparation of Possible Third Education Project	<u>2.1</u>	<u>1.4</u>	<u>3.2</u>	<u>0.3</u>	<u>0.2</u>	<u>0.5</u>	<u>0.8</u>
TOTAL PROJECT COST	<u>359.7</u>	<u>45.4</u>	<u>405.1</u>	<u>52.0</u>	<u>6.7</u>	<u>58.7</u>	<u>100.0</u>

5.12 The base cost estimates for the project institutions are based on recent contracts concluded by state secretariats of education and on data obtained from private enterprises. These estimates are expressed in September 1974 US dollars. The estimated average school construction cost ranges from US\$130 to US\$260 equivalent per square meter of the gross floor area including site development cost. These costs per square meter have been adjusted to reflect the maximum use of local building materials and economical norms and standards in the design and construction of the buildings. Nevertheless, these costs and the estimated costs per student place are on the high side

relative to other Bank/IDA-financed projects in Latin America. The wide range in cost is due to differences between the Project States in transportation costs and availability of local skilled labor and building materials. However, the unit cost per student served will be economical, as the project institutions will be used intensively on a multiple-shift basis (paras. 5.04, 5.05). Added to the base cost estimates are contingency allowances for (a) unforeseen factors equal to 10% of the base cost estimates; (b) expected price increases of 14% for 1974, 11% for 1975, 7.5% in the subsequent three years, which were estimated on the basis of general domestic inflation rates adjusted for the expected devaluation in cruzeiros. As the costs of civil works and equipment are expected to rise at the same pace as the general domestic inflation rate, the same price increase factors are applied to both categories of expenditures. The total price contingency amounts to 25% of local and foreign cost items, including physical contingencies and all contingencies amount to US\$15.2 million or 35% of the base cost estimates (Annex 7).

5.13 Since most of the building materials, furniture and equipment to be provided under the proposed project are locally produced, the foreign exchange component is low, estimated at US\$6.7 million or 11% of the total project cost. It has been calculated based on experience from the first education project as follows: site works, building construction and professional services, 10%; furniture and equipment, 10%; and technical assistance, 27%.

5.14 The proposed Bank loan of US\$23.5 million equivalent would finance about 40% of the total project cost, estimated at US\$58.7 million equivalent, including all of the foreign exchange component and US\$16.8 million of the local expenditures. The Federal government and the State governments will contribute 40% and 20% respectively to the financing of the proposed project; assurances that state counterpart contributions will be forthcoming were obtained from the Federal Government.

VI. IMPLEMENTATION AND DISBURSEMENT

6.01 Project Administration. Subsidiary agreements between the Federal Government and the Project States will be signed for the implementation of the project. PRODEM, the federal agency responsible for coordinating and supervising the implementation of the first education project (Loan 755-BR), would also be responsible for the proposed second project. PRODEM, has recently been reorganized to implement all new projects financed through external assistance. Implementation units responsible for specific project execution would be able, under PRODEM's new structure, to borrow from a pool of resources for such technical service as design work, civil works supervision and procurement of furniture and equipment. A project unit within PRODEM would supervise project implementation, coordinate activities with the ministries and states involved in the Bank project. To fulfill these responsibilities, and to ensure a more efficient liaison with the Bank, a full-time project manager, an architect, and an educator have been appointed to serve full-time for the second project in the headquarters office.

6.02 PRODEM would also establish regional offices in each project state to assist in project implementation and supervision. Each regional office would consist of a project architect and his assistant, both appointed by PRODEM and serving full-time, and two state counterparts. PRODEM would also prepare with the assistance of consultants, as necessary, a program for project implementation including, among other things: (i) basic information on educational standards; (ii) specifications for preparing designs, basic construction standards and the building materials to be used; and (iii) unit cost estimates for the project institutions. PRODEM would provide the states with basic information on procedures for properly carrying out the project, and would prepare the terms of reference and criteria for selection of consultant architects acceptable to the Bank for preparation of the designs of the project institutions in each state.

6.03 The salaries of the principal staff of the eight regional offices, as well as those of the project director and his three assistants in PRODEM, have been included in the project cost. Support staff, transport and other facilities would be provided by PRODEM.

6.04 Sites. Suitable sites for most of the project institutions have already been selected. However, the Bank should ascertain that suitable provisions are included in the subsidiary agreements between the Federal Government and each Project State to ensure that each state will complete the selection of the sites for the project institutions at least six months before the scheduled commencement of detail design work.

6.05 Procurement. Contracts for civil works, furniture and equipment would be awarded after international competitive bidding in accordance with the Bank's guidelines for procurement. However, Brazil has a competitive local construction industry capable of carrying out the project and foreign contractors are unlikely to participate. An appropriate prequalification list of contractors would be required in advance of bidding, to ensure qualified bidders and efficient work. Furniture and equipment would be grouped to form sizeable bid packages for bulk purchasing. Items that cannot be grouped into packages of at least US\$5,000 would be procured in accordance with the government's regular procurement procedures and would not exceed in aggregate the equivalent of US\$600,000 (corresponding to about 5% of the total cost of furniture and equipment). Brazil has a well-developed furniture and equipment manufacturing industry, and it is therefore unlikely that many foreign firms would submit bids, except for some special equipment. Domestic manufacturers (whose bids contain components manufactured in Brazil equal to at least 50% of the value of the bid as defined in accordance with Brazilian Law) would be allowed a preferential margin of 15% of the c.i.f. price or the prevailing tariff, whichever is lower. PRODEM would be responsible for preparing and issuing tenders, evaluating bids, and awarding the contracts in consultation with the Bank.

6.06 Maintenance and Operation. The Federal Government provided assurances that annual current expenditure state budgets for the project institutions will include sufficient funds for their proper operation and maintenance. The state secretariats of education would be responsible for the regular inspection and repair of project school premises, furniture and equipment.

6.07 Disbursements. The proposed loan of US\$23.5 million would finance 40% of the estimated costs of civil works, project administration, technical assistance, teacher training and pre-investment studies, of which US\$6.7 million represents the foreign exchange component, the balance of US\$16.8 million being local expenditures. The above percentage would be adjusted as necessary to spread disbursements over the implementation period of the project. Retroactive financing, not exceeding US\$300,000, is recommended for expenditures from July 1, 1974 in respect of professional services and technical assistance costs. Undisbursed funds would be cancelled unless the Bank agrees to use them to finance other expenses related to the project. The estimated schedule of disbursements is shown in Annex 8. The project would be carried out in about 4-1/2 years and construction would be completed in about 3 years (Annex 9).

6.08 Periodic Review of the Implementation of the Reform in the Project States and of the Project. With a view to ensuring a realistic pace of implementation of the reform in the Project States, the Bank reached an agreement with the government by which periodic reviews will be jointly undertaken with the Bank at intervals of approximately one year, during which particular attention would be given to the questions concerning progress in: (a) the use of the project school facilities by the catchment population identified during appraisal and, after school hours, by organizations such as MOBRAL and PIPMO for adult literacy and skill training programs (paras. 5.04 and 5.05); (b) the training of teachers and administrators for the project institutions (paras. 5.06 and 5.07); (c) the implementation of the technical assistance programs (para. 5.08); and (d) the implementation of preinvestment studies (paras. 5.09 and 5.10).

VII. AGREEMENTS REACHED AND RECOMMENDATIONS

7.01 Agreement has been reached with the Federal Government on the content of the subsidiary project agreements that it will sign with the Project States to ensure that: (a) a student tracer mechanisms will be introduced in each state for project secondary school graduates to obtain continuous feedback on their school preparation (para. 5.05); (b) the counterpart state contribution of 20% of the project cost will be forthcoming (para. 5.14); (c) the state governments will adopt appropriate measures for the administration and implementation of the Project and its educational objectives (para. 6.01); (d) sites for the project institutions will be selected before the scheduled commencement of design work of each institution (para. 6.04); (e) sufficient funds for the proper operation and maintenance of the project institutions will be included in the annual current expenditure budgets of the states (para. 6.06); and (f) periodic reviews will be undertaken with the States on progress of the implementation of the project's educational objectives and of the reform at large (para. 6.08).

7.02 Also, agreement has been reached with the Federal Government on:

- (a) the availability of sufficient financial resources for the state governments to implement the education reform (para. 4.07);

- (b) the use of project institutions after school hours by other community groups and organizations (paras. 5.04 and 5.05);
- (c) the submission to the Bank within six months of the signing of the Loan Agreement of a comprehensive staff development plan in respect of the project institutions (para. 5.07); and
- (d) the basic scope and design of the studies to be included in the proposed project (paras. 5.09 and 5.10).

7.03 Subject to the above conditions, the proposed project is suitable for a Bank loan of US\$23.5 million equivalent to the Federal Government of Brazil, repayable over a period of 30 years, including a grace period of ten years.

October 29, 1974

BRAZIL

SECOND EDUCATION PROJECT

Education and Training System

Structure and the Education Reform

1. The educational structure prevalent in the Project States consists of a four-year primary course starting at age 7 with some schools offering a terminal fifth and sixth year. Lower secondary education termed "ginasio" extends from grade five to grade eight and upper secondary or "colegio" from grade nine to grade eleven. An educational reform of limited scope was enacted in 1968 providing for the introduction of lower secondary schools termed "ginasio polyvalente" offering prevocational education at grades five through eight. Implementation of this reform was supported by a USAID loan which financed the construction of at least one polyvalente school in each state. In 1971 a comprehensive education reform law was enacted integrating the four year primary course with the four year ginasio course into an eight year first level education program to be followed by a three or four year diversified secondary education program aimed at preparing students towards middle level occupations as well as for higher education (Chart 1). Additional main provisions of the reform are to:

- (i) provide free and compulsory eight-year education, while reducing the incidence of repeaters and dropout rates through guidance and remedial teaching;
- (ii) increase the flow of students from primary education through ginasio (grades 5-8) by abolishing the ginasio entrance exam (Chart 1);
- (iii) consolidate the pre-vocational orientation at the ginasio level (grades 5-8);
- (iv) expand enrollments and reduce the incidence of over-aged students through the establishment of part-time courses at both the basic and secondary education levels (Chart 1); and
- (v) improve quality of education through teacher training and the provision of teaching/learning materials and equipment including educational television (ETV).

2. Automatic promotion, coupled with the goal of limiting first level education to the 7 to 14 age group and second level education to those under 21 years of age would improve the efficiency of the education system by reducing the number of overage students. For those that would be excluded from

the regular courses during the transition period, part-time "Supletivo" courses would be organized at both first and second educational levels.

Administration

3. The main responsibility for formal education administration and finance (excluding federal institutions) is in the hands of the states and municipalities with the Federal Government assuming a coordinating and planning function and providing additional finance. The Federal Council of Education established by law in 1961 is responsible for developing overall policy both financial and educational, with the Ministry of Education and Culture responsible for implementation. Each state has a State Council of Education responsible for defining local policies and programs and a State Secretariat of Education for their execution. While some technical assistance in educational planning is extended by the Federal Ministry to the secretariats in the northern and north eastern states, the latter remain weak in important areas as educational planning, curriculum development, education costing and budgeting and in relating education to the social and economic needs of the states. The problem is compounded by high personnel turnover due to low salaries and better opportunities for qualified staff in the southern states.

Basic Education (Grades 1-8)

4. Enrollment in basic education in Brazil increased from 12,585,190 in 1966 to 17,066,093 in 1971, an increase of 73% and representing 79% of the 6-14 age group (Annex 2). This relevant age enrollment is lower in the project states, varying between 47% for Amazonas and 70% for Piauí. Thus, the 1971 Reform Law that established that this level of education be compulsory and free in the public schools, has not been completely enforced, particularly in the Project States. At ginasio level, grades 5-8, the problem of overage students is even worse with 55% of the total enrollment in Brazil being 15 years or older. The nationwide dropout rate at this level is 44%. In compliance with the 1968 Reform Law, prevocational education in home economics, industrial arts, agriculture and commerce was introduced into the educational systems of the states. USAID financed construction of experimental "polyvalente schools" in four states and at least one such school was constructed in the capital of each State. Many students however still continue to receive only an academically oriented education.

5. Most states have made some progress in the implementation of the 1971 Education Law by eliminating the entrance examination to grade 5 - where practicable and providing facilities for vocational orientation in grades 5-8, either through the incorporation of existing "polyvalente schools" into the first level system or the construction of new school complexes offering facilities for the teaching of practical subjects. Several of the Project States have under construction unified first level schools offering grades 1-8 as required by the reform, but the bulk of the changes and expansion of the traditional institutions particularly the ginasio level schools are yet to be implemented.

6. Enrollment at the ginasio, level in Amazonas for example, increased from 9,705 in 1966 to 23,066 in 1971, but most of the new students have been accommodated in existing facilities utilized in two or three shifts. Maranhao, the only state to introduce educational television, has increased ginasio level enrollment in TV progrms from 1,304 in 1969 to 12,907 in 1973 with retention rates of 97%. However, the program is limited to grades 5-8 in the capital Sao Luis only and was introduced to increase education opportunity at minimum cost. Finally, in Sergipe, ginasio level enrollment doubled in the period 1966-1971, but most of the ginasio schools lack workshops and laboratory facilities for teaching pre-vocational subjects and sciences.

Secondary Education (grades 9-11)

7. Enrollment in all types of secondary schools throughout Brazil increased from 593,413 in 1966 to 1,400,000 in 1973, an annual increase of 13% during the period. These figures include about two-thirds of overaged students. In the Project States, enrollments increased from 42,782 in 1966 to 126,200 in 1973, an overall annual increase of 15%. The participation rate, however, was a mere 10% of the age group, lower than the national average. Girls constitute 57% of the enrollment in the Project States compared with 53% for Brazil at large. The general academic secondary and teacher training courses enroll about 80% of the total enrollment. Overall dropout rate is about 34% for Brazil as a whole. About 40% of the present enrollment in this level is in private schools. Although the government provides a good number of fellowships for poor students who want to attend private institutions, their required student fees, however, discriminate against those who cannot get fellowships.

8. About 25% of the total secondary school enrollments are in commercial, technical and agricultural streams. A breakdown of these enrollments in the project states is available for 1973 (Annex 3). Courses in the technical and agricultural fields are offered solely in the federal financed and administered schools and are generally of four years' duration with students spending the last year as trainees in an enterprise under a "School Enterprises Integration Scheme." A wide variety of courses are offered by the Federal Technical Schools in the mechanical, electrical and construction fields and the curricula provide for more than 50% of the time to be spent on specialized subjects and science. These schools are well-managed and efficient. Dropout is relatively low. About 20% of the graduates enter higher education institutions while the rest are easily placed in jobs in various states. The Bank's first education project in Brazil is also assisting in the expansion of federal colleges in the project states: two agricultural colleges in Para and Sergipe and a federal technical school in Para.

Teaching Staff

9. Primary school teachers (grades 1-4) are characterized in all project states by low salaries, lack of qualifications and part-time employment.

Less than 20% of teachers employed by the municipal authorities in the project states are qualified. Qualified teachers are graduates of training programs offered at the second level, grades 9-11. The teacher training course is viewed by students as an easy route to the university. Thus teacher output is greater than demand for teachers. In order to correct this situation, project states are reducing the intake into these courses and are changing teacher training institutions into ordinary second level schools. Also, in order to attract and retain qualified teachers, the states are now drawing up new statutes governing teacher salaries and benefits. The financial implications of these statutes for the state budgets have not been assessed, though. Further, the new proposals in preparation would affect only state teachers, while, as stated earlier, the most acute problems exist in the municipalities.

10. Ginasio (grades 5-8) and colegio (grades 9-11) teachers have been trained in four year courses offered in the universities. However, most of the emphasis in these programs has been on liberal arts and humanities and very few teachers have been trained in science and mathematics. In 1971, out of an estimated 20,000 science teachers in Brazil only half were qualified. A similar situation exists in the Project States. To remedy this situation USAID organized in various universities throughout the country, including northern federal universities, training and upgrading programs for present and future science staff consisting of the following:

- (a) Short training courses - training of new personnel for first level schools, grades 5-8 in 10 months (1,600 hrs.) full-time courses. Between 1972 and 1974 about 480 finished these courses.
- (b) Upgrading courses for existing staff of grades 5-8 (1,600 hours), These courses were offered over a period of 20 months including some vacation time.
- (c) Upgrading courses of 100 hours' duration for existing science teachers in grades 5-8. In the period November 1973 to February 1974 1,140 teachers were upgraded through this program.
- (d) Upgrading courses of four weeks duration (160 hours) for existing science teachers in second level schools (grades 9-11). In 1973, a total of 750 teachers attended these courses.

11. These programs started in 1972 and all the Project States have participated. For the teaching of technical science CENAFOR, in collaboration with USAID is organizing courses in applied physics to upgrade existing teachers for the technical courses at the second level schools. This program started in January 1974.

12. Teachers of technological subjects in the Federal Technical Schools are often engineers working full time and from local companies rendering part-time teaching service. A continuation of this arrangement is highly desirable as it ensures a relevance in the course content in the schools to industrial

training needs. However, practical workshop courses are mostly taught by skilled workers, few of whom have received adequate academic preparation. This staff required upgrading, courses for this purpose are now being organized by CENAFOR.

Post-Secondary Technical Education

13. In 1966 the Ministry of Education and Culture introduced into the Federal Technical School in Rio de Janeiro, experimental three-year post-secondary technical courses aimed at producing operational engineers (high level technicians) with a practical orientation. Demand by industry for the graduates of these programs was so high that the government decided to expand the program to five other centers in Brazil and in 1971, a Bank loan was made supporting this problem. This project is now well under way. However, none of the Operational Engineer Centers are located in the Project States. Some experimentation is also being undertaken by offering post-secondary technician training in selected universities. The result of these programs are being evaluated.

Higher Education

14. Enrollments in higher education throughout Brazil increased from 278,000 in 1968 to 476,000 in 1971 an increase of over 70%. They represented 6% of the 18-21 age group population of 7.8 million. In the Project States, enrollments doubled during the same period reaching 21,880 students. This, however, represents less than 2% of the relevant age group of the population of 1.2 million. Emphasis is still placed on liberal arts and humanities and only 17% of the enrollment is in technology and science courses. Preparatory or pre-university courses are given in the universities throughout the country. Nearly 14,000 students were enrolled in 1971 in these courses in the project states.

15. Entrance to all higher education institutions requires not only the satisfactory completion of second level education but also the passing of an entrance examination termed "vestibular" set by the respective faculty or university. An effort is now under way to consolidate the various "vestibular" examinations of the different faculties and universities into a national one servicing the whole country.

Non-Formal Training

16. There are ten major organizations offering non-formal training programs in the fields of rural extension, community development, literacy educational technology, technical teachers and management training and vocational training. Their annual budget is estimated at US\$100 million. Some details are presented below for the more important organizations which are also related in various capacities with the objectives of the proposed project institutions.

17. Responsible for the organization of Brazil's literacy campaign is MOBREAL (Movimento Brasileiro de Alfabetizacao), a foundation under the Ministry of Education and Culture which enjoys administrative and financial autonomy. Reorganized in 1970, MOBREAL's financial resources derive basically from a percentage of the proceeds of the National Football Lottery. The organization is managed by a central office and has state coordinating offices. Municipal committees are responsible for the organization and administration of programs. These are responsible for recruitment and grouping of illiterates, finding classroom space and appointing teachers. In 1971, there were about 18 million illiterates in Brazil, about half of them living in the northern and northeast region. MOBREAL offers three basic programs:

- (a) the Functional Literacy Program enrolled about 4 million participants and produced over 2 million literates in 1972 in programs consisting of two hours of instruction daily for five months;
- (b) the Integrated Education Program which comprises four phases of 240 hours each and is a follow-up activity aimed at the newly literate to assist him/her develop permanent literacy; and,
- (c) the Community Development Program consisting of two months' preparatory work for future enrollment in the Integrated Education Program.

18. MOBREAL's goal is to reduce the illiteracy rate to less than 10% by 1980. Achievement of this ambitious target will depend on the availability of sufficient teachers of adequate quality. Although brief pre-service training is given to teachers and about 100,000 of them have been trained in the first two years of operation, a continuing shortage of teachers, coupled with the lack of effectiveness of the follow-up programs in reaching target population may require an extension of the target date. The high dropout rates running as high as 50% of initial course enrollments, will also contribute to that.

19. Some details are presented below for other important organizations offering non-formal training which are also related in various capacities with the objectives of the proposed projects and the proposed project institutions. Industrial training is organized by SENAI (Servicio Nacional de Aprendizagem Industrial) either in training centers or in enterprises. Courses offered vary from management training to equipment operator training. The emphasis of the program is on the institutional training of apprentices. Established in 1942, SENAI is directed by its National and Regional Councils dominated by the National Confederation of Industry. It is financed by a 1% tax on the payroll of industrial firms. In the project states about 12,000 persons are trained annually in SENAI programs. Commercial training is organized by SENAC (Servicio Nacional de Aprendizagem

Comercial). This organization was established in 1946 by the National Confederation of Commerce. It is managed by National and Regional Administrations, and is financed by a 1% tax on the payroll of commercial firms. SENAC operates a network of training centers throughout the country and the project states, offering commercial courses to both apprentices and adults in the project states; annual output is about 8,000.

20. Labor market studies establishing state training priorities, are organized by PIPMO (Programa de Expansao e Melhoria de Ensino), a department of the Directorate of Non-Formal Education in the Ministry of Education. PIPMO identifies training programs and target trainee groups and undertakes the organization of training programs through SENAI, SENAC or other public or private organizations that have the requisite physical training facilities. It acts as an agency for promoting urban and rural training programs and fills the gap left by the other organizations in providing training opportunities for employees of small-scale enterprises whether industrial, commercial or agricultural. PIPMO organized courses are relatively short, and are arranged to satisfy urgent local manpower needs. They are designed to facilitate rapid absorption of the trainees into the labor force. Training is arranged for adolescents and adults for employment in any occupational field. Output from the program has grown from 16,000 in 1964 to 146,000 in 1971 with an estimated one-third of these in north - northeast Brazil. PIPMO is also planning to organize specialized training at the first and second educational level for students in both regular courses and part-time "Supletivo" courses.

21. In an effort to provide adequate facilities for the training of technical teachers, instructors and school management personnel employed in the technical schools and training centers of the Ministry of Education, in SENAI and SENAC, as well as of directors of training, training officers and other personnel responsible for training activities in enterprises, the National Center for Vocational Training (CENAFOR) was established in Sao Paulo in 1969. CENAFOR is an autonomous agency governed by a Technical Administrative Council consisting of 10 members as follows: - five representatives from the Ministry of Education and Culture and one each from the Ministry of Labor, Ministry of Planning and Economic Coordination, State Government of Sao Paulo, SENAI and SENAC. In addition to its training functions, CENAFOR is responsible for carrying out surveys, studies and research for the improvement of vocational training and technical education. Seven regional centers have also been established, two of these in the north-northeast located in Belem and Rio Grande do Norte. A UNDP/ILO project has been supporting the strengthening and expansion of CENAFOR activities since 1972.

BRAZILSECOND EDUCATION PROJECTThe Education Financial System

1. This appendix is intended to provide additional information on the federal fund transfer mechanism for education/training. A detailed listing of education finance by source and function is given in the table to the appendix. A detailed analysis of financing of formal and non-formal education in the Northeast States is given in the recent Bank economic report on Brazil. ^{1/}
2. Since 1962, the Federal Government has depended mainly on the National Education Fund to support state and local education expenditure. Starting in 1967, however, this program was gradually phased out and was replaced by three major revenue sharing funds: Education Salary Fund, Participation Fund and Special Fund.
3. The Education Salary Fund is a federal tax of 1.4% on the payroll of public and private enterprises and is earmarked for exclusive use in basic education. One half of the collected amount in each state, the state quota, remains there. The other half, the federal quota, is redistributed by the Federal Government according to a composite formula, which favors the poorer, most populous and the least developed states in terms of education attainments. The States can use the funds for either capital or recurrent expenditure. Thus, there is a net transfer of resources through this fund from the richer to the poorer states. In the Project States, the transferred federal quota is larger than the state quota by about four times. This implies that in these states about 80% of the transferred federal quota represents a net transfer of resources for education from the rest of Brazil. In 1974, the Project States are to receive about 33% of the total federal quota which accounts for about a quarter of the total federal transfer revenue that the eight states are expected to receive.
4. In order to meet the increasing state expenditures associated with the reform of basic education, the Ministry of Education had proposed that the payroll tax rate be increased to 2.8%. This proposal is still under discussion between ministries.
5. The Participation Fund financed with federal income and sales taxes, is the major revenue sharing fund in the country. This fund was established to offset revenue losses of state and municipal governments which resulted

^{1/} The Economic and Social Development of Brazil, Vol. V, "Employment and Education in the Northeast" (IBRD No.38-BR, March 12, 1973).

from the Tax Reform Law of 1966. One half of the Fund, which is called the state quota, is allocated to the states and the other half, the municipal quota, is allocated to the municipalities, both according to a composite formula, which favors the largest, most populous, and poorest states. By law, both the state and municipality, must spend at least 20% of their revenues from this fund on education. Particularly in that case, 30% of the revenues must be spent on capital expenditures for education.

6. All the project states except one (the state of Maranhao) use the Participation Fund revenues for education at higher rates than the law requires. In fact, on the average, the rate is twice higher than the required minimum.

7. The Special Fund is a revenue sharing fund established specifically for the development of the states of the north-northeast. The source and distribution formula of this fund are similar to those of the Participation Fund, but this fund is distributed only to the north-northeast states and must be spent in its entirety on capital expenditures. Although the revenue from this Fund is more or less the same as that of the Participation Fund and can be used for any level of education, the project states have so far used only a very small portion of it for education. However, with the increasing local demand for the expansion of educational facilities, each state may have to divert a greater portion of this fund to education.

8. The three major revenue sharing funds support mainly formal education. Non-formal education schemes are being financed by a variety of public and private agencies through earmarked taxes, or other federal transfers. The Ministry of Education collects revenues from the National Sports Lottery and other sources and allocates them for adult literacy (MOBRAL), adult continuing education, tele-education, radio-education (Projeto Minerva), sports education, and vocational training in all economic sectors (PIPMO). The Ministry of Labor finances adult vocational training and a large number of scholarships in various fields. The Ministry of Agriculture, through its state extension services (ANCAR) is involved in rather extensive training schemes of adolescents and adults, especially in the areas of agriculture, health and nutrition. The Ministry of the Interior, via its regional development councils also expend money on all levels of education, but principally on vocational training.

9. The Federal Government's 1973 budgeted education expenditure of about Cr. 2.9 billion was distributed by Ministry as follows: Cr. 2.1 billion or 72% of the total for the Ministry of Education; Cr. 0.4 billion or 15% for the Ministry of Planning and Coordination; Cr. 0.2 billion or 7% for the Ministry of Defense; Cr. 0.03 billion or 1% for the Ministries of the Interior, Labor and Social Security and Transportation; and the balance for other organizations.

BRAZILSECOND EDUCATION PROJECTTechnical Assistance

1. The implementation of the development strategy and of the proposed project, calls for concerted efforts so that the recently introduced education reforms can be extended to meet the needs of the poorer states of the north/northeast regions. Teaching staff for the proposed project school needs to be trained and the staff of the state secretariats of education require extensive upgrading. For this purpose, the appraisal mission and the government have agreed to include in the proposed project the cost of 20 man-years of specialists' services (some 10 specialists, including 5 Brazilians) and 80 man-years of fellowships for overseas training. The total cost of this program is estimated at US\$1.4 million. This total includes some US\$300,000 for the organization of in-service training programs for local educators at the Federal and State levels, and support expenditure (travel and per diem) for the technical assistance specialists and materials for the training program. It is expected that the specialists under this program will work in coordination with the UNDP/ILO/UNESCO human resource planning teams who are undertaking an extensive national study of human resource development. The technical assistance program under this project will consist of the following specialists and fellowships (numbers in parenthesis indicate man-years).

A. Specialists' Services (20)

- (i) Education Planning (7). An education planner, chief of the group (3), a general educator/planner (2), and an education economist/statistician (2). The group will be under the direction of the National Planning Office in the Ministry of Education. The chief of this group will also coordinate the action of groups (ii), (iii), (iv), (v) and (vi) that will be located in PRODEM;
- (ii) Education Administration (3.0). A specialist in education administration, overall management and supervision (3.0). This specialist will assist the chief of group in overall coordination of the technical assistance team at PRODEM;
- (iii) Curriculum Development (4). One or two specialists in academic subjects (2.5) and one or two specialists in practical subjects (1.5). These specialists will be located at PRODEM. Their main function would be to help the states in planning the introduction of the new curricula;

- (iv) Teacher Training (3.0). Several short-term specialists in the teaching of industrial, commercial, home economics and agricultural subjects. These would be located at PRODEM and would help the project states to develop in-service training programs for teachers of the above subjects. They would also assist the curriculum development group (3.0);
- (v) Rural Education (2.0). A specialist in rural education who would help the Project States in developing rural education, and particularly in assessing the needs (teachers, physical facilities, expenditures) for proper implementation of the reform in the rural areas of these states (2.0); and
- (vi) School Building (1.0). An architect, specialist in school buildings (1.0). This specialist, together with groups (ii) - (v) will be under the direction of PRODEM, but its main purpose will be to work closely with the state secretariats of education.

B. Fellowships for Graduate Studies Overseas (80)

The program will include about 10 man-years of fellowship (6-18 months duration) in each one of the 8 project states in the following related fields: education planning (2); education administration (2); curriculum development (2); teacher training (2); education economist (1) and school architect (1).

2. The planning office of MEC, with the assistance of the education planner (para 4.10) would coordinate the entire operation financed by the proposed project. The education planner would also assist the fellowship committee in its recruitment and placement of the selected personnel. Special emphasis would be given to the needs for the training of local personnel of the project states.

3. The specialists to be headquartered at PRODEM would be responsible to the Project Unit Director and the specialist in education administration would be responsible for their overall coordination and for administrative related matters. Although the headquarters of this assistance group will be in PRODEM in Rio de Janeiro, its main objectives would be to work closely with the Project States secretaries of education.

4. Thus, the curriculum and teacher training specialists will work closely with university, federal and state education officials who are already working on curriculum and teacher training. The architect would: (i) assist PRODEM architects in overall architectural planning for the project schools; and (ii) coordinate the work of the project states architects. The

rural education specialist would help the project state officials, in charge of rural education to identify the needs and priorities of this subsector. The work of this specialist will serve as a basis for expanding the education reform into the small urban communities and rural areas.

5. About 60-80 local teachers, school administrators and architects would each receive 6 to 18 months of training overseas at the graduate level in the fields of education planning, curriculum development, teacher training, education research and school construction. On return they will work, under special contracts at the project secretariats of education and/or in the project institutions. They will collaborate closely with the specialists in planning and implementing the changes envisaged and in meeting the priority needs of the education system in the north/northeast states. The proposed schedule for implementing this technical assistance is offered in the attached Table 1.

Pre-investment Studies

6. Four interrelated studies to assess the implications of the implementation of the reform are included in the project. Because of this relatedness, outputs from one study would be required as inputs by another; therefore, a close coordination of certain study phases would be absolutely essential. A brief summary of these studies is offered below:

- (a) a school facility and a school mapping survey, extending the inventory exercise that has been undertaken in most states. This survey would serve as a basic tool for long-term planning of education development and short-term programming in each state;
- (b) an assessment of the institutional, teacher training requirements to properly implement the reform in the north-northeast states. This study would assess the qualifications of the teaching force and the kind of teaching programs required to train and upgrade the unqualified teachers. Also, the study would assess the additional number of teachers required for the enrollment expansion and the teaching training institutions that would train these teachers;
- (c) an assessment of the cost implications for implementing the reform in the rural areas of the North-Northeast states. This survey would assess the financial (capital and recurrent) requirements for meeting the reform objectives and enrollment targets in the rural areas of these states. Particularly, it would evaluate the capacity of the municipal and state governments to meet these targets from expected local funds and federal transfers; and
- (d) an assessment to achieve greater efficiency in the education system, particularly, with reference to the overaged student groups in basic education.

7. Included in the pre-investment studies, is also an overall survey to determine the requirements of the post-secondary technician program. This is needed to formulate a development plan for this level of education in the period 1975-85 and also to prepare a short-term program for the establishment of appropriate and expanded facilities.

BRAZIL II

Tentative Schedule for Implementation of Technical Assistance

	1974				1975				1976				1977				1978				1979				Total Man-years				
	Quarter				Quarter				Quarter				Quarter				Quarter				Quarter								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
A. <u>Specialists for:</u>																													
(1) <u>The Education Planning Office (MEC)</u>																													
(i) Education Planner	x				x	x	x	x	x	x	x	x	x	x	x	x													3.0
(ii) General Educator									x	x	x	x	x	x	x	x													2.0
(iii) Education Economist									x	x	x	x	x	x	x	x													2.0
(2) <u>PRODEM, Rio</u>																													
(i) Education Administrator	x				x	x	x	x	x	x	x	x	x	x	x	x													3.0
(ii) Curriculum Development Specialists									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	4.0
(iii) Teacher Training Specialists									x	x	x	x	x	x	x	x	x	x	x	x									3.0
(iv) Rural Education Specialist									x	x	x	x	x	x	x	x													2.0
(v) School Architect	x				x	x	x	x																					1.0
TOTAL																										20.0			
B. <u>Fellowships</u>																													
About 16-20 Local Education Planners, Economists and Architects																													(20)
About 4-5 Staff Members of PRODEM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x					(5)
About 30-35 Secondary School Directors, Teachers and Administrators	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(35)
About 10-20 basic-education Administrators, Teachers	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(20)
TOTAL																										80			

BRAZIL

SECOND EDUCATION PROJECT

Actual and Projected Enrollment in Basic Education (Primary: Grades 1-4, Ginasio: Grades 5-8)
1966, 1971 and 1976, 1980

	ACTUAL		PROJECTED (in 000's)		ANNUAL GROWTH IN PERCENTAGES	
	1966	1971	1976	1980	1966-71	1971-80
A. BRAZIL:						
All States (Total)	(12,585,190)	(17,066,093)	(22,600)	(28,300)*	(6.3)	(5.8)
Primary (1-4)	10,695,391	13,623,388	17,300	21,200		
Ginasio (5-8)	1,889,799	3,442,705	5,300	7,100		
B. PROJECT STATES:						
1 - Alagoas (Total)	(160,281)	(242,467)	(320)	405	(8.6)	(5.8)
Primary	143,705	208,996	275	350		
Ginasio	16,576	33,471	45	55		
2 - Amazonas (Total)	(100,414)	(125,198)	(170)	(215)	(4.5)	(6.2)
Primary	90,709	102,132	140	175		
Ginasio	9,705	23,066	30	40		
3 - Maranhao (Total)	(256,155)	(409,046)	(635)	(920)	(9.8)	(9.3)
Primary	234,257	351,710	550	790		
Ginasio	21,898	57,336	85	130		
4 - Para (Total)	(294,522)	(392,570)	(530)	(665)	(5.9)	(6.1)
Primary	259,126	327,462	440	560		
Ginasio	35,396	65,108	90	105		
5 - Paraiba (Total)	(276,483)	(354,826)	(535)	(740)	(5.1)	(8.6)
Primary	250,287	302,639	455	640		
Ginasio	26,196	52,187	80	100		
6 - Piaui (Total)	(165,534)	(281,178)	(455)	(670)	(11.2)	(10.2)
Primary	147,272	240,915	400	600		
Ginasio	18,262	32,263	55	70		
7 - Rio Grande Do Norte (Total)	(202,125)	(271,693)	(395)	(535)	(6.1)	(7.9)
Primary	184,128	238,116	350	475		
Ginasio	17,997	33,577	45	60		
8 - Sergipe (Total)	(104,362)	(156,051)	(215)	(275)	(8.1)	(6.3)
Primary	91,619	136,455	185	235		
Ginasio	12,743	21,596	30	40		
GRAND TOTAL (PROJECT STATES)	(1,559,876)	(2,235,029)	(3,255)	(4,425)	(7.5)	(7.8)
C. States not specified on this table (Total)	(11,025,314)	(14,831,064)	(19,345)	(23,875)	(6.0)	(5.5)

* About 2,000,000 of this total will be attending special
suppletive courses for overaged students.

SOURCE: Ministry of Education and Bank Staff Projections.

July 1974

BRAZIL

SECOND EDUCATION PROJECT

Actual and Projected Enrollment in Secondary Education (Grades 9-11/12) in Brazil
1966, 1973 and 1980

	ACTUAL		PROJECTED	ANNUAL GROWTH	
	1966	1973	(in 000's)*	1966-73	1973-80
A. BRAZIL (Totals All States)					
Secondary Education (Grades 9-11/12)	(593,413)	(1,400,000)	(3,400.0)	13.0	8.0
General Secondary	292,200	689,500	1,700.0		
Industrial	34,300	81,000	300.0		
Agricultural	5,800	12,000	30.0		
Commercial	129,000	306,000	700.0		
Teacher Training	132,113	311,500	670.0		
B. PROJECT STATES					
Alagoas (Total)	(5,581)	(15,000)	(45.0)	15.0	17.0
General	2,600	6,950	26.0		
Industrial	370	1,000	2.0		
Agricultural	30	50	1.0		
Commercial	670	1,800	4.0		
Teacher Training	1,911	5,200	12.0		
AMAZONAS (Total)	(2,821)	(11,000)	(38.0)	22.0	19.4
General	925	3,672	12.0		
Industrial	350	1,190	4.0		
Agricultural	-	38	1.0		
Commercial	720	2,850	10.0		
Teacher Training	826	3,250	11.0		
MARANHAO (Total)	(5,463)	(22,000)	(66.0)	22.0	17.0
General	2,300	9,300	30.0		
Industrial	256	1,048	2.0		
Agricultural	37	152	4.0		
Commercial	820	3,300	10.0		
Teacher Training	2,050	8,200	20.0		
PARA (Total)	(9,474)	(21,000)	(56.0)	12.0	15.0
General	4,184	9,300	25.0		
Industrial	520	1,160	3.0		
Agricultural	57	127	0.3		
Commercial	2,160	4,800	13.0		
Teacher Training	2,553	5,613	14.7		
PARAIBA (Total)	(7,186)	(19,000)	(40.0)	15.0	11.0
General	4,766	12,550	26.0		
Industrial	260	700	1.4		
Agricultural	110	250	0.5		
Commercial	700	1,850	4.0		
Teacher Training	1,350	3,650	8.1		
PIAUÍ (Total)	(4,024)	(14,000)	(40.0)	20.0	16.0
General	1,934	6,700	19.0		
Industrial	230	800	1.8		
Agricultural	40	140	0.9		
Commercial	640	2,240	7.0		
Teacher Training	1,180	4,120	11.3		
RIO GRANDE DO NORTE	(4,904)	(14,200)	(30.0)	16.0	11.3
General	2,570	7,450	16.0		
Industrial	288	830	1.5		
Agricultural	76	220	0.5		
Commercial	870	2,500	5.0		
Teacher Training	1,100	3,200	7.0		
SERGIPE	(3,329)	(10,000)	(19.0)	17.0	9.7
General	1,270	3,820	7.0		
Industrial	240	720	1.3		
Agricultural	149	440	0.8		
Commercial	770	2,320	4.5		
Teacher Training	900	2,700	5.4		
GRAND TOTAL PROJECT STATES	(42,782)	(126,200)	(334.0)	16.0	15.0
C. OTHER STATES NOT INCLUDED ON THIS TABLE					
	(550,631)	(1,273,800)	(3,066.0)		

* About 200,000 overaged students will be enrolled in the suppletive courses.

SOURCE: Ministry of Education and Bank staff projections.

July 1974

BRAZIL

SECOND EDUCATION PROJECT

Public Education Expenditure in the Project States (1974)
(in Cr. 000's)

	Stãte Education Expendi- ture ^{1/}	By Source (%)		By Category (%)		State Education Expenditure as % of State Total Expenditure	% of State Own Revenues on Education	% of Federal Transfer on Education	% of Participa- tion Fund ^{2/} on Education ^{6/}	% of Special Fund on Edu- cation ^{8/}
		State	Federal	Recurrent	Capital					
		Own Revenue	Trans- fer ^{2/}							
1. Alagoas	56,020	65	35	99	1	16	16	18	45	15
2. Amazonas	64,718	54	46	82	18	15	17	13	27	0
3. Maranhão	84,607	48	52	n.a.	n.a.	11	11	12	8	1
4. Pará	91,804	42	58	66	34 ^{4/}	17	15	18	52	4
5. Paraíba	61,928	53	47	75	25	16	15	18	54	1
6. Piauí	92,075	40 ^{3/}	60 ^{3/}	64 ^{3/}	36 ^{3/}	21	13	37	34 ^{7/}	9 ^{7/}
7. R. G. Norte	69,847	41	59	66	34 ^{4/}	24	16	40	37	0
8. Sergipe	43,416	22 ^{3/}	78 ^{3/}	73 ^{3/}	27 ^{3/}	17	9	25	59	30
Eight-State Average		46	54			17	14	23	40	8

^{1/} These budget estimates include all expenditures on education and culture but exclude Central Government's direct expenditures and municipal expenditures in the States.

^{2/} Includes Participation Fund (the state quota), Education Salary Fund (the federal quota), Special Fund, and other transfers.

^{3/} 1973 data.

^{4/} Includes capital transfers to Secondary Education Foundations.

^{5/} The state quota.

^{6/} 1973 data.

^{7/} 1972 data.

July 1974

BRAZIL

SECOND EDUCATION PROJECT

Enrollments and Teacher Requirements for the Project Institutions

	BASIC EDUCATION INSTITUTIONS (Grades 1-8)							SECONDARY EDUCATION INSTITUTIONS (Grades 9-11)						
	Schools		Centers		Total	Total	Total	Schools		Centers		Total	Total	Total
	No. of Units	Enrollment	No. of Units	Enrollment	Enrollment	Teachers 1/	School Administrators	No. of Units	Enrollment	No. of Units	Enrollment	Enrollment	Teachers 2/	School Administrators
Alagoas	1	1,820	1	1,920	3,740	89	16	3	3,600	2	3,840	7,440	224	32
Amazonas	2	2,620			2,620	90	14	1	1,200	1	2,400	3,600	103	18
Maranhao	1	1,600	1	3,000	4,600	110	18	3	3,360	1	1,920	5,280	183	24
Pará	2	3,260			3,260	108	17	1	1,440	1	2,400	3,840	110	19
Paraíba	1	1,600			1,600	60	8	3	3,720			3,720	150	19
Piauí	1	1,920			1,920	75	10	3	3,720	2	3,840	7,560	249	34
Rio Grande Do Norte	2	3,200			3,200	126	16	3	4,560	1	1,920	6,480	232	37
Sergipe			3	2,880	2,880	48	9	2	2,400	4	7,440	9,840	295	36
GRAND TOTAL	10	16,020	5	7,800	23,820	706	108	19	24,000	12	23,760	47,760	1,546	219

1/ The pupil:teacher ratio for the basic schools is 30:1 and for the centers about 60:1 (based on the number of students served).

2/ The pupil:teacher ratio for the second level schools is 24:1 and for the centers about 40:1 (based on the number of students served).

BRAZIL
SECOND EDUCATION PROJECT
Summary of Estimated Costs
(In US dollars)

Exchange Rate: US\$1.00 = Cr\$6.90

<u>S t a t e s</u>		<u>Student Places</u>	<u>Enrollment (Multi Shifts)</u>	<u>Area m²</u>	<u>Site Works</u>	<u>Building</u>	<u>Furniture</u>	<u>Equipment</u>	<u>Professional Services</u>	<u>Project Admin.</u>	<u>Tech.Assist. Int. Train.</u>	<u>Total US Dollars</u>	<u>Total Cruzeiros (000's)</u>
1 AL	Alagoas	3,990	11,180	22,300	318,014	2,649,391	379,898	1,368,696	207,783	111,493	504,435	5,539,710	38,224,000
2 AM	Amazonas	2,510	6,220	14,550	413,609	3,446,666	256,580	810,311	270,319	111,493	504,435	5,813,413	40,112,550
3 MA	Maranhao	3,460	9,880	21,035	324,855	2,706,884	879,870	843,174	360,130	111,493	504,435	5,730,841	39,542,800
4 PA	Para	2,950	7,100	16,100	354,333	2,951,681	264,869	842,274	231,435	111,493	504,435	5,260,520	36,297,590
5 PB	Paraiba	2,660	5,320	14,770	215,985	1,799,899	240,913	772,536	141,101	111,493	504,435	3,786,362	26,125,900
6 PI	Piaui	3,780	9,480	22,790	326,638	2,722,058	378,377	1,260,927	213,420	111,493	504,435	5,517,348	38,069,700
7 RN	Rio Grande do Norte	4,360	9,680	23,280	330,000	2,749,739	370,130	1,137,536	215,623	111,493	504,435	5,418,956	37,390,800
8 SE	Sergipe	4,080	12,720	23,010	338,493	2,820,579	385,493	1,516,982	221,116	111,493	504,435	5,898,591	40,700,280
<u>Total</u>		27,790	71,580	157,835	2,621,927	21,846,897	3,156,130	8,552,436	1,860,927	891,944	4,035,480	42,965,741	296,463,620
<u>Contingencies</u>													
Physical Increase					262,000	2,185,000	316,000	855,000	186,000	89,000	403,000	4,296,000	29,642,400
Price Increase					682,000	5,680,000	821,000	2,223,000	279,000	214,000	1,089,000	10,988,000	75,817,200
<u>Total Contingencies</u>					944,000	7,865,000	1,137,000	3,078,000	465,000	303,000	1,492,000	15,284,000	105,459,600
Preparation of Possible Third Education Project												500,000	3,450,000
<u>Grand Total</u>					3,565,927	29,711,897	4,293,130	11,630,436	2,325,927	1,194,944	5,527,480	58,749,741	405,373,220

Sept. 1974 prices

July 1974

BRAZIL
SECOND EDUCATION PROJECT
Contingency Allowances
(US\$ 000)

	Site Works		Building		Furniture		Equipment		Professional Services		Project Administration		Technical Assistance		TOTAL
	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	
Physical Increase	10%	10%	10%	10%	10%	10%	10%	10%	10%	-	10%	-	10%	10%	10%
Price Increase	24%	24%	24%	24%	23%	23%	24%	24%	14%		22%	-	25%	25%	23%
Total Project Cost Without Contingencies	2,360	262	19,662	2,185	2,841	316	7,697	855	1,861	-	892	-	2,946	1,090	42,967
Physical Increase	236	26	1,966	219	284	32	770	85	186	-	89	-	295	109	4,297
Price Increase	614	68	5,112	568	710	79	2,001	222	279	-	214	-	795	294	10,956
Total Contingencies	850	94	7,078	787	994	111	2,771	307	465	-	303	-	1,090	403	15,253
Total Project Cost (including contingencies)	3,210	356	26,740	2,972	3,835	427	10,468	1,162	2,326	-	1,195		4,036	1,493	58,220
Preparation of Possible Third Education Project															<u>500</u>
GRAND TOTAL															<u>58,720</u>

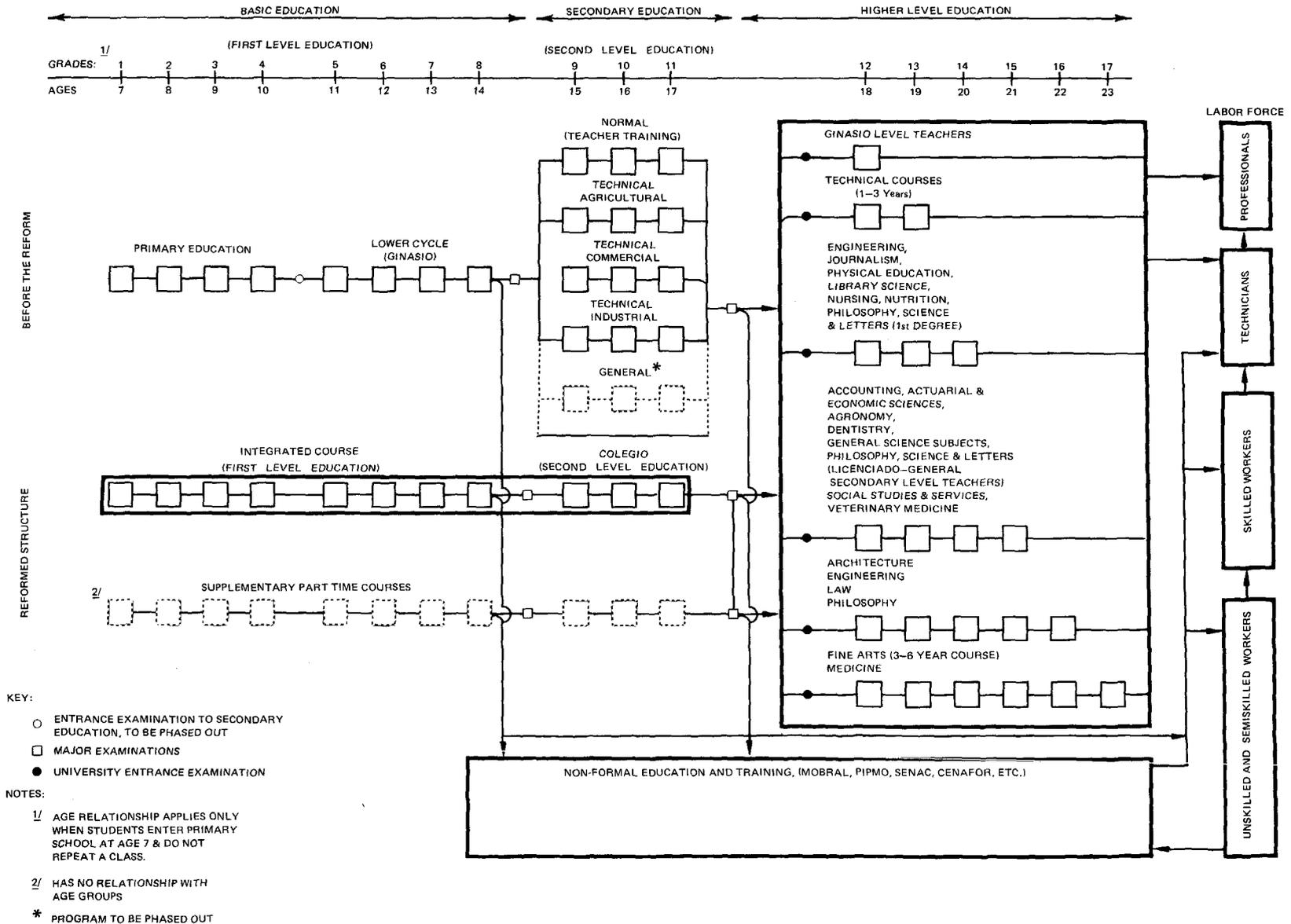
July 1974

BRAZILSECOND EDUCATION PROJECTEstimated Schedule of Disbursements
(US\$ '000's)

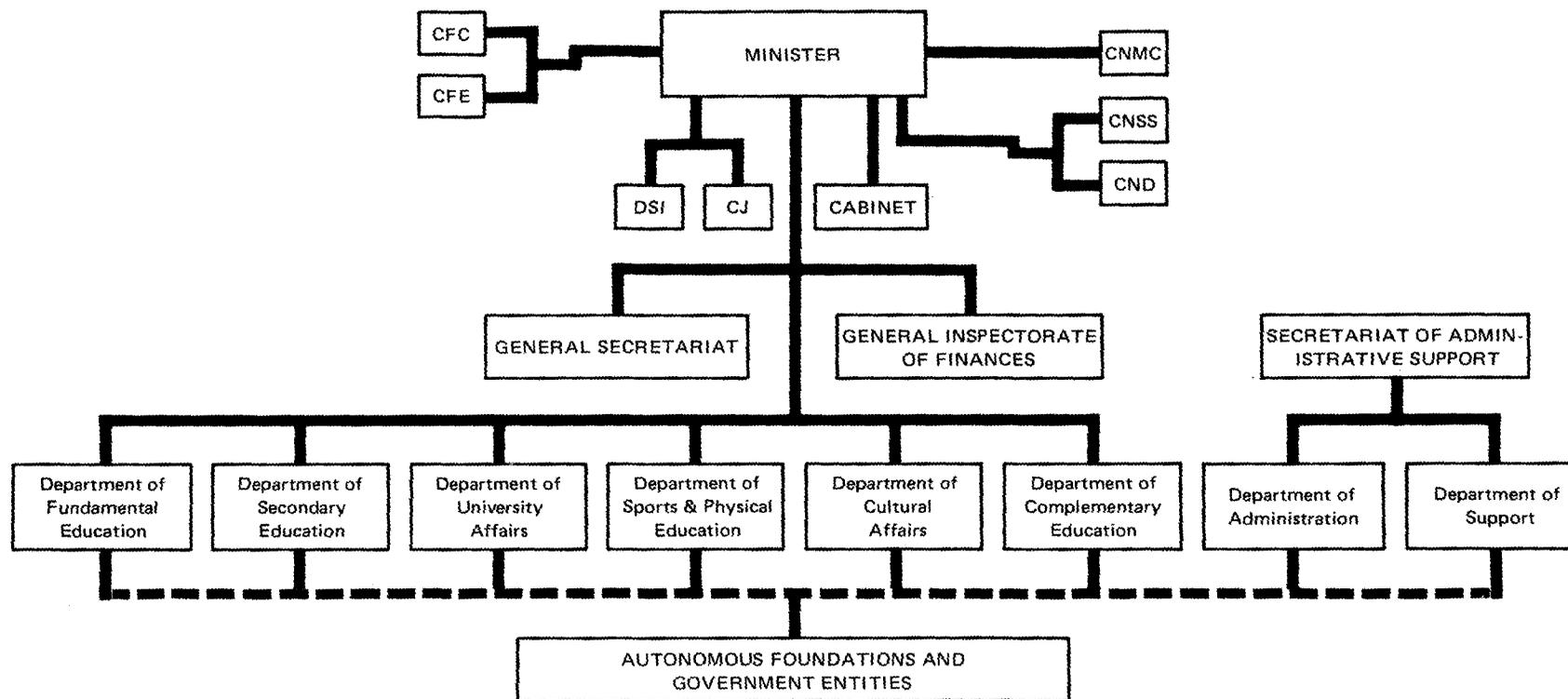
<u>YEAR</u>	<u>SEMESTER</u>	<u>DISBURSEMENTS</u>	<u>ACCUMULATED DISBURSEMENTS</u>	<u>UNDISBURSED BALANCE</u>
1975	1	136	136	23,500
	2	417	553	23,364
1976	3	1,421	1,974	22,947
	4	3,559	5,533	21,526
1977	5	5,966	11,499	17,967
	6	5,847	17,346	12,001
1978	7	3,555	20,901	6,154
	8	1,669	22,570	2,599
1979	9	672	23,242	930
	10	258	23,500	258
				-

 July 1974

**BRAZIL
STRUCTURE OF THE EDUCATION SYSTEM
1973**



BRAZIL
ADMINISTRATION OF EDUCATION 1974



LEGEND:

CFE = FEDERAL COUNCIL OF EDUCATION

CFC = FEDERAL COUNCIL OF CULTURE

CNMC = NATIONAL COMMISSION OF MORALS & CIVICS

DSI = DIVISION OF PUBLIC RELATIONS

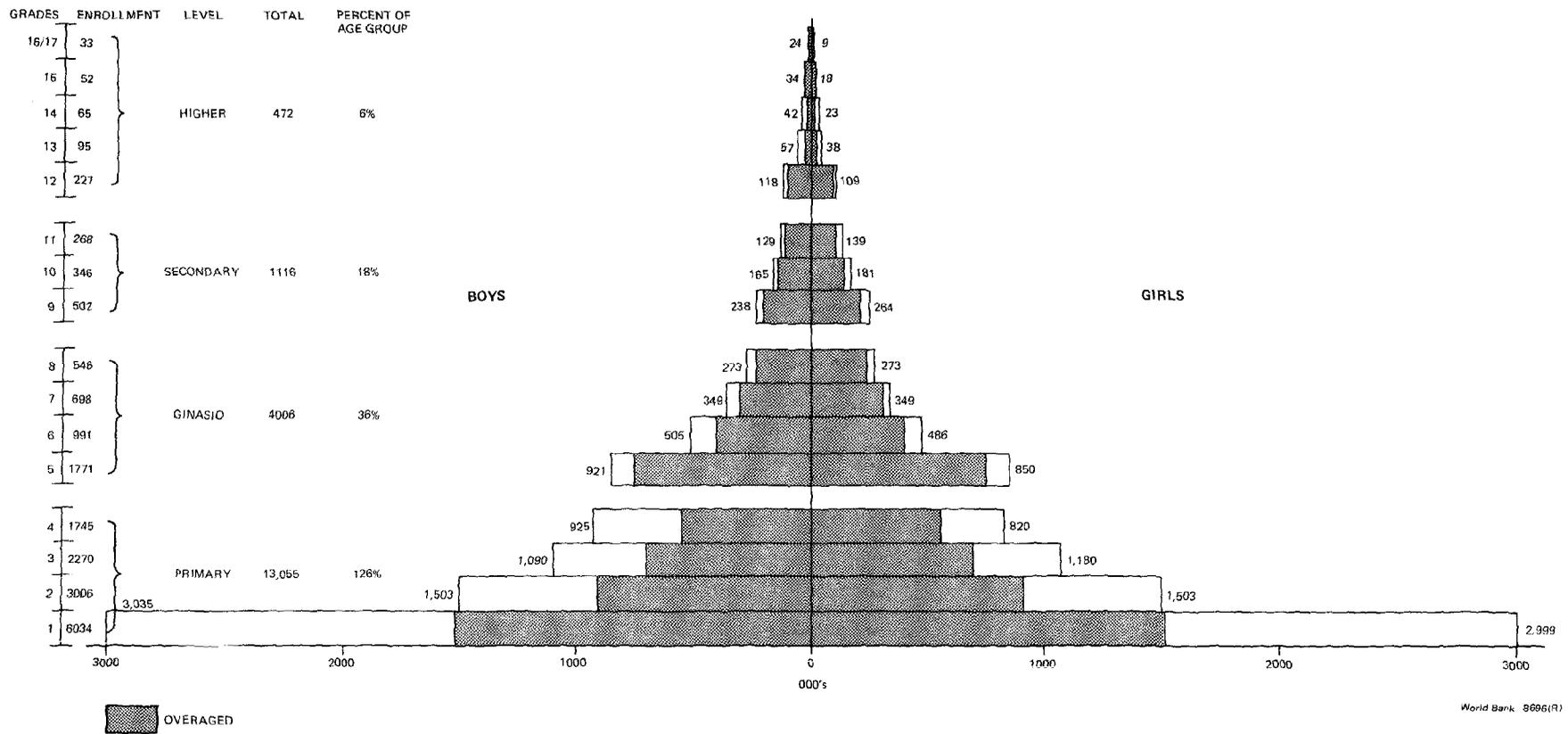
CJ = LEGAL COUNCIL

CNSS = NATIONAL COUNCIL OF SOCIAL SERVICES

CND = NATIONAL COUNCIL OF SPORTS

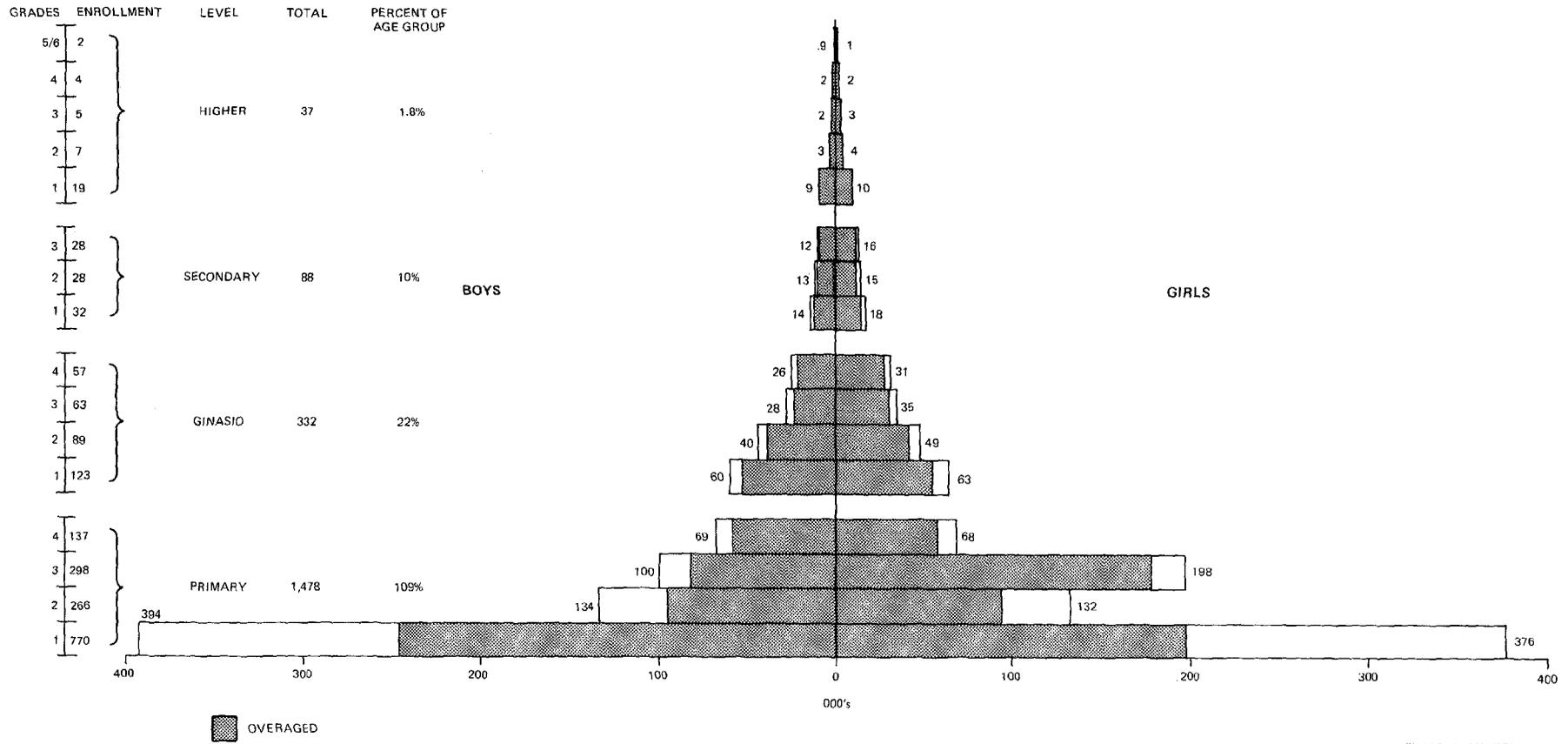
SOURCE: Ministry of Education, 1974

BRAZIL
EDUCATIONAL PYRAMID
1971



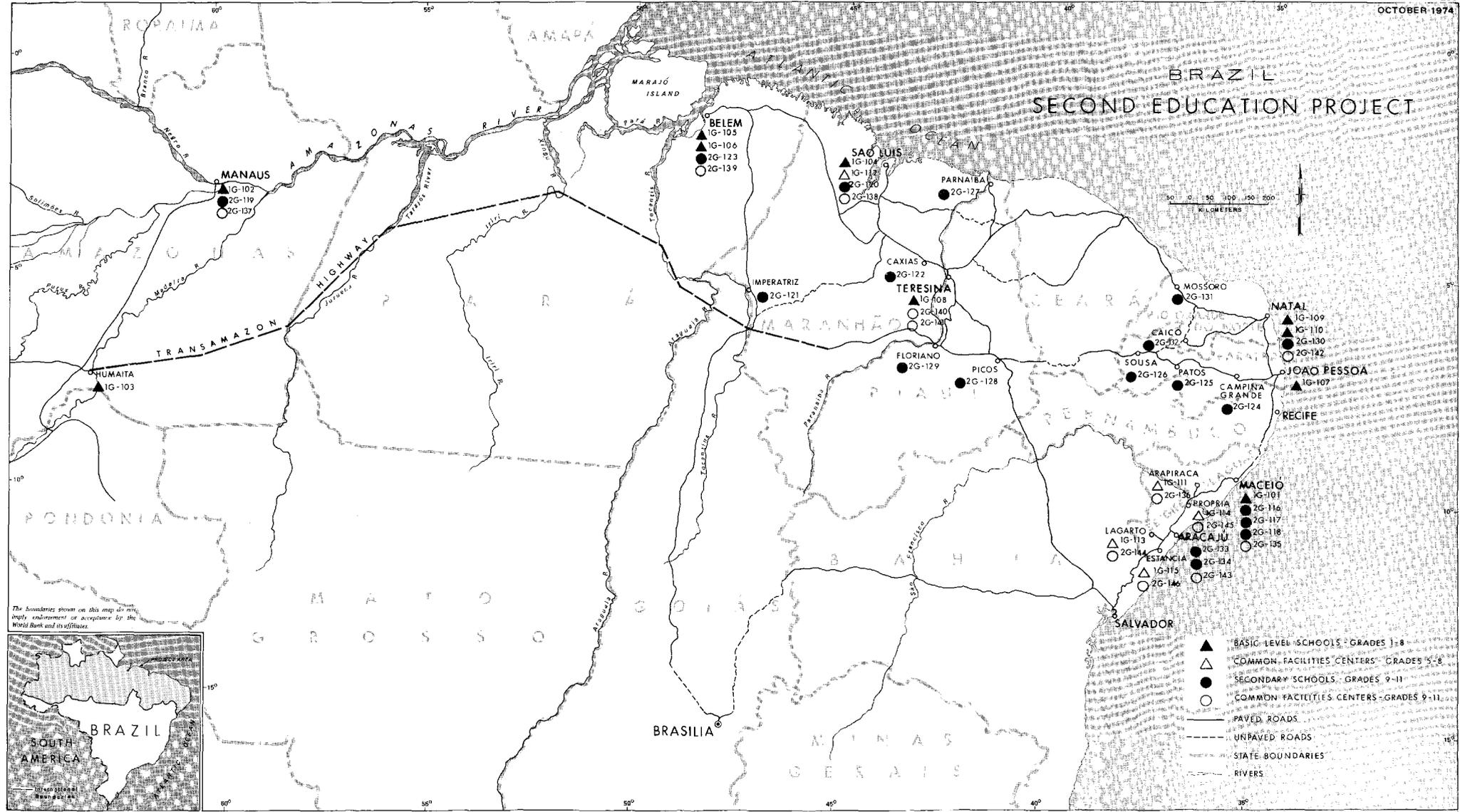
World Bank 8696(R)

**BRAZIL
EDUCATIONAL PYRAMID
PROJECT STATES
1971**



World Bank - 8695(3R)

BRAZIL SECOND EDUCATION PROJECT



The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.