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REPORT AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSED LOAN

TO

BARBADOS

FOR A

FIRST EDUCATION PROJECT

December 5, 1978

CURRENCY EQUIVALENTS

Currency Unit	=	Barbados Dollar (BDS$)
US$1	=	BDS$2
BDS$1	=	US$0.50

FISCAL YEAR

April 1 - March 31

WEIGHTS AND MEASURES

1 hectare (ha)	=	2.47 acres
1 square meter (m^2)	=	10.76 square feet
1 square kilometer (Km^2)	=	0.39 square miles

ABBREVIATIONS

BIDC	-	Barbados Industrial Development Corporation
BIMAP	-	Barbados Institute of Management and Productivity
CDB	-	Caribbean Development Bank
CDF	-	Caribbean Development Facility
CFTC	-	Commonwealth Fund for Technical Cooperation
CIDA	-	Canadian International Development Agency
IDB	-	Inter-American Development Bank
MOE	-	Ministry of Education and Culture
UWI	-	University of the West Indies

BARBADOS

FIRST EDUCATION PROJECT

LOAN AND PROJECT SUMMARY

Borrower: Barbados

Amount: US$9.0 million

Terms: Payable in 15 years, including three years of grace at 7.35% per annum.

Project Description: The project aims to: enhance the effectiveness and efficiency of the education system; make possible the effective application of modern and relevant curricula; provide more equitable distribution of education opportunity; and improve cost effectiveness in the education system. The project provides assistance in institution building for management and execution of education programs; complements and strengthens existing programs for management training and advisory services to small-scale enterprises; and introduces an in-plant workers' training program.

The project consists of:

(a) construction, furnishing and equipping of ten primary schools which will replace 5,880 existing student places in obsolescent schools;

(b) (i) construction, furnishing and equipping of expansion to six secondary schools to provide facilities for the teaching of practical courses for some 2,600 student places, of which 1,500 are additional and 1,100 are replacement places;

(ii) equipping and furnishing of a secondary school presently under construction;

(c) construction, furnishing and equipping of an expansion of Erdiston Teacher Training College to function also as a teacher training resource center for the continuing education of practicing teachers;

(d) construction, furnishing and equipping of an expansion to the Barbados Institute of Management and Productivity (BIMAP) to help establish an in-plant training program and advisory services to small-scale enterprises;

(e) technical assistance to the Ministry of Education (MOE) for project implementation and to BIMAP for initiating the in-plant training program.

The project entails no special risks except perhaps that the Government may initially encounter resistance in introducing targets for economic class sizes and teacher-student ratios. This resistance, if it materializes, is expected to be considerably diluted as the project allows the Government to move towards these targets on a stage-by-stage basis, i.e., the project schools as they are completed in 1980, 1981 and 1982 will be the first to introduce these norms; the rest of the schools will follow later.

Estimated Cost

	(US$ million equivalent)		
	Local	Foreign	Total
Primary Schools	2.4	3.2	5.6
Secondary Schools	1.5	2.7	4.2
Teacher Education	0.2	0.4	0.6
Industrial Training	0.1	0.2	0.3
Technical Assistance	0.1	0.3	0.4
Base Costs	4.3	6.8	11.1
Contingencies			
Physical	0.4	0.7	1.1
Price	0.8	1.5	2.3
Total Costs	5.5	9.0	14.5

Financing Plan

	(US$ million equivalent)		
	Local	Foreign	Total
Bank	-	9.0	9.0
Government	5.5	-	5.5
Total Project Cost	5.5	9.0	14.5

Estimated Disbursements

(US$ million equivalent)

Bank FY	1979	1980	1981	1982	1983
Annual	.1	.8	3.3	2.3	2.5
Cumulative	.1	.9	4.2	6.5	9.0

Staff Appraisal Report: No. 2220b-BB dated November 20, 1978

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO BARBADOS FOR A FIRST EDUCATION PROJECT

1. I submit the following report and recommendation on a proposed loan for the equivalent of US$9.0 million to Barbados for an education project. The loan would have a term of 15 years, including three years of grace, with interest at 7.35% per annum.

PART I - THE ECONOMY

2. An economic report (Economic Memorandum on Barbados, Report No. 1618a-BB, dated March 31, 1978) was distributed to the Executive Directors on April 5, 1978. Annex 1 contains the basic country data.

Background

3. Barbados is among the most densely populated countries in the world, with a total area of 166 square miles and a population of 247,000. Its location is somewhat isolated, as it lies in the southeastern Caribbean, some 100 miles east of the smaller islands of St. Vincent and St. Lucia, its nearest neighbors, and about 350 miles north of the coast of South America. The island is small even by Caribbean standards, being less than one-tenth the size of Trinidad and Tobago. It is one of the more developed countries of the Caribbean Common Market. Its per capita income in 1977, US$1,760 (according to the World Bank Atlas definition), is the second highest in the region, behind that of Trinidad and Tobago (US$2,380). Its relatively high income, the smallness of the island and its relative isolation from the rest of the Caribbean have contributed to the building of a rather homogeneous, close-knit society, with a long history of constitutional government. The country, which had been a British colony, attained self-government in 1961 and became a sovereign state in November 1966. Barbados joined the Bank in September 1974.

4. While the country's natural resource base is limited, the available resources are utilized in a relatively efficient manner. Soil, topography and rainfall patterns are ideally suited for growing sugarcane, which is the main agricultural product. There are no known metallic mineral deposits. However, pockets of petroleum and natural gas at present supply about one-third of the domestic energy consumption needs. A major strength of the country is its tolerant and well-educated populace. Perhaps the island's most valuable natural resources are its beautiful beaches and mild weather, which now attract close to 300,000 tourists annually and have permitted tourism to develop as one of the two most dynamic sectors of the economy, the other being manufacturing.

5. The international recession has recently evoked apprehension over the perils of excessive reliance on a single sector, tourism, for future

growth. The result has been a redirection of both public and private effort increasingly into manufacturing. The Barbados Industrial Development Corporation (BIDC), in particular, has been the prime vehicle for attracting private capital and launching new industrial enterprises in the country. The current strategy, as it pertains to the manufacturing sector, can be expected to entail continued effort on the part of BIDC in its search for, and promotion of, new ventures. The key bottleneck to the development of the sector, however, continues to be a lack of skilled manpower. The educational system places too little emphasis on technical and vocational training as compared with secondary general education.

6. Barbados possesses a relatively well developed infrastructure. The road system provides ready access to virtually every corner of the island. As a result of a rapid growth in private motor vehicles, however, road congestion is becoming a serious problem; there is need for improvements in the public transportation system. A large jet-accommodating airport and deepwater harbor supply air and sea transportation services for the country as well as for the nearby islands. Power generation capacity, although adequate at present, could pose increasing problems by the early 1980s when the peak demand is forecast to exceed the present generating plant load-carrying capability unless new investments are undertaken to meet the emerging generating gap. The Government has systematically pursued distribution-oriented policies geared to meet the basic needs of the population by increasing education, health and housing services. Nevertheless, further efforts in this direction are still required, especially for the poorer segments of the population.

7. Unemployment in Barbados is a grave problem that not only is a drain on the country's resources but is also socially debilitating. Although the unemployment rate is estimated to have declined from above 20% in 1975 to around 12.5% in mid-1978, the problem continues to be serious. At the same time, the island suffers from shortages in certain key skills. To ameliorate unemployment in the future, therefore, manpower training schemes must accompany increased investment in employment-generating activities. Population growth has traditionally been substantially lower than 1% per annum because of a successful family planning program and high migration to seek employment opportunities elsewhere. In recent years, restrictions on emigration by the United States, United Kingdom and Canada have severely curtailed emigration. As a result, future population growth is expected to be at a rate of about 1.2% per annum. Distribution of income in Barbados is not excessively uneven. Statistics compiled from income recipients for 1969/70 show that the proportion of total income accruing to the poorest 40% was 18.6%, while the top 20% of income recipients received 44%.

Recent Economic Developments

8. The structure of economic activity in Barbados changed substantially in recent times with the sugar industry losing its predominant position in the economy to the fast-growing tourist, manufacturing and government sectors. The leading sector in the economy at present is the tourist sector which together with its ancillary service activities generates about one-third of GDP and accounts for about half of the foreign exchange earnings.

The Government and manufacturing sectors follow with 16% and 11% of GDP respectively. Sugar now accounts for less than 7% of GDP compared with 33% in the 1950s. Prolonged periods of dry weather combined with rising labor costs and weak international prices have been responsible for a decline in sugar production from the 1967 level of over 200,000 tons to an estimated 100,000 tons in 1978.

9. Because of its narrow resource base and limited internal market, Barbados is highly dependent on the external sector of its economy. In 1977, imports and exports of goods and nonfactor services were equivalent to about 70% and 60% of GDP respectively. Food imports constitute roughly one-half of domestic food consumption, a large portion of which is utilized to cover the needs of the tourist sector.

10. After a period of dynamic growth between 1966 and 1970--8.5% per capita per annum--real GDP grew modestly during the early 1970s, primarily because of the poorer performance of the tourist industry in the latter period. During this period the country began to experience increasing balance of payments and budgetary problems accompanied by rising unemployment and accelerating inflation. Sharp increases in international prices associated with rising energy costs triggered unprecedented annual average increases in the retail price index of almost 40% in 1974 and about 20% in 1975. In these two years, the economic situation deteriorated further with real GDP declining at an average annual rate of about 1%. The major cause was the economic recession in the industrial countries combined with increasing prices for Barbados imports. Per capita income declined by an average of about 2% p.a. during these two years.

11. The economy recovered relatively well in 1976 and 1977 with real GDP growth averaging about 5% per annum, the main impetus coming from tourism, manufacturing and construction. The renewed growth resulted from a rise in tourism arrivals and length of stay, increased investment promotion efforts and use of idle manufacturing capacity, as well as an increase in the number of both private and public sector construction projects. In addition, the performance of the agricultural sector was enhanced as improved weather conditions for sugar led to higher yields and output increases of 5% and 15% in these two years, but most of this improvement was lost in 1978 when the sugar crop was poor and nonsugar agriculture could not take up the slack. Inflation fell to 5% in 1976 after the realignment of the Barbadian dollar with the US dollar, but increased to 8.4% in 1977 and about the same rate this year as a result of rising import prices, a prolonged drought in the agricultural sector and sizable overall wage increases in public sector salaries awarded in 1976 and again in 1978.

12. With the exception of a short period in the mid-1970s the capacity of the public sector to finance its investment expenditure has declined over the past several years. Public sector savings fell sharply in 1973-74, increased in 1975 as a result of higher sugar prices but declined to 2.9% and 2.7% of GDP in 1976 and 1977, respectively. Current budgetary revenue of the Central Government grew relatively fast during the 1973-78 period (tax revenue buoyancy to GDP was 1.2) but current budgetary expenditure over the same

period increased even more rapidly. The major reasons for the increase in current spending have been wage adjustments of public service employees and growth of subsidies to public enterprises providing social services (public transport, housing, sanitation). In early 1978 the Government introduced measures aimed at reversing the declining trend in public savings by increasing revenues and curbing expenditures. These measures included increases in corporate and personal income taxes, in withholding taxes, and in consumption taxes. However, wage increases to public sector employees have been nearly twice as high as originally envisaged by the Government and current expenditures in 1978 are expected to increase almost as much as revenues. Following rapid expansion of public investment in recent years, capital expenditure is likely to level off in 1978 as the Government has attempted to curb new investment for which no external financing has been obtained. While part of the public sector's deficit has been financed by foreign project loans, a portion has also been financed by the domestic banking system including in some years a substantial share by the Central Bank.

13. A lasting improvement in public finances requires a reduction in current expenditure growth. Acceleration in revenue growth is unlikely in the immediate future as the tax effort is already relatively high. Increased tax revenue has been obtained from the income and profit taxes. Adoption of a common external tariff by CARICOM, however, has severely limited customs duties as a source of additional government revenue. Domestic consumption taxes, property taxes and user charges for public services, therefore, appear to be the only sources of additional revenue and the Government does not believe it can introduce changes in these taxes in the immediate future. The Government is aware of the need to strengthen public finances and is at present studying alternatives for reversing the decline of public sector savings.

14. The balance of payments has been under continuous pressure since the early 1970s, reflecting the deterioration in the Government's financial position and foreign market developments. In the wake of the upturn in domestic economic activity after 1975, imports surged. Imports grew rapidly because of accelerating wage increases, expansionary government spending and easily obtainable consumer credit. Adverse movements in the terms of trade as a result of declining sugar prices after their 1975 peak reduced export earnings. As a result, a large current account deficit equivalent to nearly 17% of GDP was registered in 1976. External capital inflows were not sufficient to cover the large current account deficit, and by year-end international reserves declined to the equivalent of less than one month's imports of goods and nonfactor services. In order to stem this decline in foreign exchange reserves, the Government introduced measures in 1977 aimed at curbing consumer goods imports. Quantitative restrictions on imports of consumer durables were expanded and consumer credit was restricted. Simultaneously foreign exchange earnings from tourism increased rapidly with the result that the current account deficit in the balance of payments declined to 11% of GDP. For 1978, the recorded deficit is expected to decline to about 9% of GDP. This deficit, however, is probably over-stated, as the balance of payments contains large errors and omissions, a substantial proportion of which is assumed to be attributable to tourism. While the 1977 and 1978 deficits represent a substantial improvement over the large 1976 deficit, substantial external borrowing from foreign commercial banks and utilization of IMF compensatory financing had to be used to prevent further loss of foreign exchange reserves.

Growth Prospects

15. The economy appears to have the potential to attain growth of about 5% per annum over the next several years. Relatively high rates of growth of tourism and manufacturing are likely to be sustained in the future, but there is also significant growth potential in nonsugar agriculture (fruits and vegetables) and in fisheries. Given the expected composition of this growth, this would make possible a decline in unemployment to under 10% by the early 1980s. In order to sustain such growth over the medium term without an undesirably large buildup of external debt, however, the Government will have to bring about an increase in national savings and a further reduction in the current deficit of the balance of payments. As in the past, future economic growth will have to be export led and this in turn will depend on the Government's ability to contain wage increases so that the international competitiveness of Barbadian labor is maintained. The Government's short-term strategy for coping with balance of payments difficulties will continue to emphasize growth in tourism and export manufacturing, supported by credit and import controls.

16. The Government is currently preparing a five-year development plan for 1979-83 aimed at increasing productivity and at sustaining adequate rates of growth of national income. It is expected that this plan will place high priority on growth and diversification of exports of goods and services. In tourism, the Government's principal objectives are to increase occupancy rates during the summer season and to improve the retained value added of the industry. A reinforced and reorganized export promotion agency is to provide a complementary vehicle for the promotion and marketing of manufactured products abroad. Agricultural production is to satisfy a growing proportion of domestic demand and stronger linkages to the tourism sector are to be developed, thus reducing the mounting food import bill.

17. The Government's development strategy is based on maintaining a mixed economy with the private sector playing a major role accompanied by active public sector support. Education and manpower training are expected to form an integral part of the Government's program, since the development of skilled manpower will help to accelerate growth of industry and nontraditional agriculture. Improvements in physical infrastructure including power-generating capacity are to support the development of the productive sectors of the economy.

18. With a public external debt service ratio of 3.4% in 1977 and debt outstanding and disbursed amounting to US$46 million (10.3% of GDP) at the end of 1977, Barbados has modest external public indebtedness. The current external debt profile is relatively favorable and is expected to continue to be so if the Government moves to reverse the declining trend of public savings and to reduce the large current account deficit in the balance of payments. In light of its moderate debt burden and favorable growth prospects and provided that measures to raise national savings are taken in due course, Barbados may be expected to remain creditworthy for loans on conventional terms.

PART II - BANK GROUP OPERATIONS

19. Barbados became a Bank member in 1974. The proposed education project would be the Bank's first lending operation. The current lending program includes also an $8.0 million loan for a proposed tourism development project. In addition, Barbados has benefited from the Bank's lending to the Caribbean Development Bank (CDB). So far, a loan of $2.6 million from IBRD resources was made by the CDB to Barbados in September 1978 for a relatively small industrial development project.

20. The Bank has maintained a continuing dialogue with the Government on its economic policies and development priorities. The Bank organized last June a subgroup of donors under the auspices of the Caribbean Group for Cooperation in Economic Development to coordinate financial and technical aid to Barbados. At the first meeting of the subgroup in June 1978, multilateral and bilateral donors expressed substantial interest in financing specific priority projects and in providing technical assistance to Barbados. In addition, in light of Barbados' difficulties in the balance of payments and public finances, the Group recommended that the country receive an allocation of US$7 million from the Caribbean Development Facility (CDF). 1/ To date, a balance of payments loan of £ 850,000 (US$1.65 million) has been made by the UK, and the US and Canada have pledged assistance of US$1.5 million each within the CDF framework.

21. In the future, the Bank's lending to Barbados either directly or indirectly through the CDB will be mainly directed towards projects for diversified agricultural production, power generation and urban development. This is in line with the Government's strategy to reduce the mounting import food bill while satisfying the needs of the local population and of the tourism sector, to improve the living conditions of the urban poor and to increase the present power-generating capacity of the country in order to meet increasing demand requirements.

22. It is estimated that by 1982 the Bank's share in Barbados' public external debt outstanding and disbursed will be about 3%. The Bank's share in the external public debt service will also be about 3%.

1/ The Caribbean Development Facility was established during the First Meeting of the Caribbean Group for Cooperation in Economic Development, held at Bank headquarters, June 19-24, 1978. It is a transitional emergency financing facility to cover local costs and cost overruns of development projects in Caribbean countries, including Barbados. It is planned to be phased out over a maximum period of five years. Financing offered within the facility framework is expected to provide over US$100 million during FY79 to the countries of the Caribbean. The major contributors are the US, UK, Canada, Venezuela and the OPEC Special Fund.

PART III - THE EDUCATION SECTOR

Background

23. The Barbados education system is relatively highly developed. Literacy stands at 99% (1976); over 90% of the labor force has had at least six years of education and 75% had at least nine years. The Government considers its well educated labor force as one of its main assets in developing the productive sectors of the economy. The present education system, however, places a high recurrent cost burden on the Government; public expenditures on education reached a high 8.1% of GNP or 22.1% of public sector expenditures in 1976, partly because of inefficiencies in the education system. High teacher-student ratios and excessive maintenance costs due to inadequate and obsolescent physical infrastructure are the main factors for the relatively high recurrent costs. The Government is committed to take the appropriate steps to improve efficiency, equity and quality of the education system in conjunction with measures to increase its cost effectiveness.

24. External aid through bilateral and multilateral agencies has been a significant factor in the development in recent years of the education sector in Barbados. In 1972 IDB approved a US$2.8 million loan for the construction and equipment of the Community College; the project has been completed. In 1976 IDB approved a loan of US$6.6 million for rebuilding and expanding the Polytechnic; construction is expected to start in 1979. Out of a total $32 million public investment program in education for 1978-81, the Government is expected to finance about 50%; the IDB, through the loan referred to above, would contribute about 22%, and the proposed Bank loan about 28%.

Overview of the Education Sector

25. The Ministry of Education (MOE) has jurisdiction over almost all education activities. The formal education system consists of six years of primary, five to seven years of secondary; and three to five years of higher education.

26. The net enrollment rates are remarkably high--virtually complete registration of the primary school age group and the equivalent of 84% of the relevant secondary school age group. There is no disparity between male and female participation. Promotion and progression rates are very high and the dropout rate is negligible. These impressive achievements have been realized without compulsory education laws.

27. The majority of the schools, however are inadequate and obsolescent; they do not allow for the effective application of the recently developed, practically oriented curricula that meet the requirements of the Regional Caribbean Examinations Council, and require excessive maintenance costs. They are also the main reason for relatively small class sizes which cause high teacher-student ratios and high recurrent costs. Furthermore, the present system retains the academically less capable children in the primary schools for lack of places in the secondary schools. These children are referred to in the educational system as the "all age tops." The elimination of the "all age tops" is a matter of priority to the Government.

28. The new curricula also make demands upon the content of teacher education. The Erdiston Teacher Training College is not fully equipped to undertake some of the new types of courses and activities which should become part of the modern education curriculum. Also a small expansion is necessary to increase intake in order to clear the backlog of unqualified teachers in the schools (about 25%), to upgrade, retrain and reorient the present qualified teachers' school principals and education administrators and gradually to introduce a preservice course for new teachers and potential principals. In this respect, advisory services to teachers and tools and facilities to prepare their own materials and aids are also necessary.

29. Presently there is too little technical and vocational training in the secondary schools as compared with general education. This imbalance is being partly remedied by two IDB projects: the upper secondary-level Polytechnic which trains skilled workers and provides part-time and nonformal courses, and the post secondary Community College which trains technicians in engineering trades, tourism and business. The Polytechnic project also provides for technical assistance to support the MOE Planning Unit. Management training has been carried out by the Barbados Institute for Management and Productivity (BIMAP). The activities of BIMAP need to be expanded to meet the demand for additional management and supervisory staff training, and to provide in-plant worker training and technical and advisory services to small-scale enterprises. This together with regional facilities that provide training in agricultural extension, animal health, fisheries and paramedics, and the two IDB-sponsored projects mentioned above are expected to cover adequately most of the foreseeable needs for vocational training.

Government's Strategy for Educational Development

30. The Government with technical assistance from other agencies has developed during recent years modern and relevant curricula that are geared to the needs of Barbados and fully meet the requirements of the Regional Caribbean Examination Council. The main objectives of the Government's policy for the development of the education sector are: (a) modernization and redirection of the educational content and the physical facilities of the education system to make it a more productive development tool through greater emphasis on vocational training and on technical, science and other practical studies; (b) the equalization of educational opportunity through extension of education to all, at least up to age 16; and (c) increased training programs tailored to Barbadian industrial and economic development needs. The strategy is to achieve these objectives in conjunction with measures to increase the efficiency of the education system and its cost effectiveness.

Bank's Role in Education and Training

31. Bank support through this first education project in Barbados focusses on assisting the Government in applying more rapidly and effectively its strategy of combining measures to assure equity and relevant general education and skill training with measures to enhance the cost-effectiveness of the system. This would be achieved by provision of the appropriate facilities in which well-trained teachers can effectively apply the modern and

relevant curricula. The project aims at replacing the existing facilities and in some cases, at modifying and expanding the existing installations. The execution of the project would introduce quality improvements linked with such cost-effective measures as larger but reasonable class sizes, more economic teacher-student ratios, economic norms and standards in building design and systems, more rational use of resources through improved administrative and organizational practices, and multi-purpose use of all practical facilities. Expansion of existing schools will provide the appropriate facilities for the teaching of practical courses and will increase the intake capacity of the secondary schools enabling them to accommodate the majority of the output of the primary schools, thus almost eliminating the inequitable "all-age tops."

32. In determining the content of the project in line with the above objectives and strategy, account has been taken of the assistance provided by other agencies--IDB in vocational training and the MOE Planning Unit, OAS in curriculum development, and CIDA to BIMAP for advisory services to small-scale enterprises.

PART IV - THE PROJECT

33. A report entitled "Staff Appraisal Report on a First Education Project Barbados" (No. 2220b-BB, dated November 20, 1978) is being distributed separately. Annex III contains a timetable of key events in processing the project and a description of the special conditions of the proposed loan. Negotiations for the proposed loan took place in Washington, D.C. on October 25-26, 1978. The Barbadian delegation was led by Mr. Erskine Rawlins, Chief Education Officer.

Objectives and Composition

34. The objectives of the proposed project are to support government policy to redirect the emphasis of the educational content and teaching methodologies in the schools, to remove inequities in the education system, and to initiate cost-effectiveness measures. The project will be the first step toward initiating cost effectiveness measures in the education system through the introduction of functional design of classroom spaces, use of appropriate building materials and systems, school organizational practices, and norms and standards for equipment and furniture (Section 3.01 of Loan Agreement). The class size in the project schools will be designed to accommodate an increased number of students (about 35) which will lead to more economical teacher-student ratios and reductions in recurrent costs. The Government will achieve these targets through a prudent teacher hiring and training policy and the normal attrition of teachers. The project also complements the assistance being provided by other development institutions in the area of institution building, particularly with a view to strengthening the national capability in management and execution of education programs, and in the organization and conduct of nonformal management and in-plant worker training and advisory services to small enterprises. Specifically, the proposed project would comprise:

(a) construction, furnishing and equipping of ten primary schools. This component will provide about 5,880 student places, which will replace existing places in obsolescent schools. The new facilities include spaces and equipment to facilitate the teaching of the well balanced primary school curriculum which includes elementary science and agriculture, crafts, basic home crafts and health education. The schools would operate with reasonable class size of about 35 and teacher-student ratio of about 1:29, compared with the present class size of 22 to 30 and a teacher-student ratio of 1:21. The Government has agreed to apply both norms in the project schools as they become operational and to the rest of the system's schools subsequently in accordance with a time schedule to be agreed upon with the Bank. (Section 3.04 of Loan Agreement). The Government has also agreed to provide training and employment to qualified primary school teachers for remedial work in each new primary school, to ensure that slow learners are given a chance to make the necessary progress (Section 3.04 of Loan Agreement).

(b) construction, furnishing and equipping of expansions to six existing secondary schools. This component will provide facilities for the teaching of science, industrial arts, home economics, agriculture and business courses for some 2,600 student places, of which 1,500 are additional and 1,100 replacement places. In addition, one secondary school which is presently under construction with about 1,250 student places will be furnished and equipped under the project. The additional student places provided by the project will make it possible for the equivalent of about 70% of children presently left behind in the primary schools "all-age tops" to enter secondary schools. The project schools will also help pioneer the move towards a more rational use of resources in the education sector. The Government agreed to operate the project schools with a reasonable class size of about 35 and teacher-student ratio of about 1:23 (Section 3.04 of Loan Agreement), and to undertake appropriate measures, aimed at achieving maximum cost effectiveness through functional design of classroom spaces, use of appropriate building materials and systems, school organizational practices, and norms and standards for equipment and furniture (Section 3.01 of Loan Agreement).

(c) construction, furnishing and equipping of the expansion of Erdiston Teacher Training College. This component will provide appropriate facilities to enable the Erdiston Teacher Training College to undertake the function of a teacher education resource center for the continuing education of practicing teachers, and to train teachers in the practical subjects which now figure prominently in the curricula of primary and secondary schools. It would also enable the college to expand its regular and in-service courses for primary and secondary school teachers and accommodate an increased intake of teachers (150 instead of 120 in its regular courses and 200 instead of 180 in its in-service course). The facilities to be provided include a well stocked reference and study library, a demonstration micro-teaching area, a lecture theater, a well equipped general workshop and a learning-teaching aids design and production area. The Government has agreed to make resources available for the necessary additional staff which are to be appointed in accordance with a time schedule satisfactory to the Bank (Section 3.05 of Loan Agreement).

(d) construction, furnishing and equipping of an expansion to the Barbados Institute of Management and Productivity (BIMAP). This component will help establish an in-plant training program and strengthen an advisory services program to small-scale enterprises. These programs are expected to reach about 1,500 workers and 480 middle-management personnel annually. BIMAP would also assist large firms in setting up viable training programs within their own establishments. The Government has agreed to make facilities available to BIMAP from time to time for special short BIMAP training courses (Section 3.06 of Loan Agreement) and to insure that BIMAP would appoint the required additional staff and submit annual evaluation reports of BIMAP activities to the Bank beginning in 1981 until completion of the project (Section 3.06 of Loan Agreement).

(e) provision of services of architectural consultants and other specialists. This component will provide: about 12 manyears of architectural and other support services to the project unit; fellowships for about 30 manmonths in support of BIMAP for in-plant training, and advisory services to small-scale enterprises, programs; and technical assistance to the MOE to undertake special intensive training courses for key school and MOE administrative staff during 1980, 1981 and 1982 (Sections 3.02 and 3.07 of Loan Agreement). It takes into account the considerable assistance already being provided by other agencies and the fact that Barbados has substantial expertise of its own in the MOE or in other government agencies which can be utilized for the project. The Government has agreed to submit specific proposals for the fellowship program to the Bank for review by June 30, 1979 (Section 3.08 of Loan Agreement); consultant and specialist services will be appointed under terms and conditions acceptable to the Bank (Section 3.02 of Loan Agreement).

Project Costs and Financing

35. The total project cost is estimated at US$14.5 million, including physical contingencies of US$1.1 million and price contingencies of US$2.3 million. Physical contingencies amount to 10% for all project components; price contingencies represent an average of 18.4% of the base cost plus physical contingencies. Imported equipment and furniture would be exempt from customs duties and are costed accordingly. Specialist services and fellowships, representing US$0.6 million of total project costs, are estimated at an average of US$34,000 and US$20,000 per manyear, respectively. The proposed Bank loan of US$9 million would finance 62% of the project costs, which represents the equivalent of the estimated foreign exchange costs. The balance of project costs would be borne by the Government.

Recurrent Costs

36. The overall impact of the project will result in considerable savings in recurrent costs when compared with the present less efficient system. The recurrent costs generated by the primary and secondary school components of the project would be about 11% less than if the same enrollments would attend schools with the present class sizes and average teacher-student ratios. This savings already takes into account higher nonsalary costs (materials, etc.) in project schools due to the increased practical work in laboratories and workshops. The teacher training component would cause an increase in annual recurrent expenditures of only $80,000 over the 1977-80 level. The expanded activities of BIMAP would double its 1977-78 level of expenditures by 1982. BIMAP, however, expects that the fees charged for services rendered would cover about 90% of the annual recurrent expenditures. The Government would contribute the remaining 10%, which means that the Government contribution would remain at its present level of $40,000 (at 1977 prices). The Government agreed that all equipment, furniture and buildings financed under the proposed project would be adequately maintained and repaired and that it would take all necessary steps to make funds available in the event of any shortfall in revenues needed to cover BIMAP's operational expenses (Section 3.01 of Loan Agreement).

Project Implementation

37. The project would be implemented by a Project Unit which would be established within the MOE. A full time Project Manager acceptable to the Bank will be responsible for the implementation of the project and will report directly to the Permanent Secretary of the MOE (Section 3.03 of Loan Agreement). The Project Unit would include, besides the Project Manager, three architects, one quantity surveyor, one structural engineer, one accountant and adequate support staff (Schedule 5 of Loan Agreement). The Curriculum Development Section and the operational divisions of the MOE would provide the Project Manager with assistance on educational matters including preparation of equipment lists as required (Section 3.03 of Loan Agreement). The BIMAP component would be executed by the Executive Trustee of BIMAP with the assistance of consultants procured through the construction division of the Barbados Industrial Development Corporation to which BIMAP is closely connected. All

accounting, however, would be the responsibility of the Project Manager. The Government has agreed to provide suitable premises and make the required personnel available to the Project Unit (Section 3.03 of Loan Agreement).

38. All sites for the project schools would be acquired by March 31, 1979 (Section 3.12 of Loan Agreement). Design drawings, equipment and furniture lists and all contractual documents and procedures would be submitted for Bank approval before finalization and procurement action (Section 3.10 of Loan Agreement). An implementation schedule has been prepared which the Project Manager would update regularly. Project schools would be designed to require the minimum routine maintenance. The Government would prepare a maintenance handbook to assure proper maintenance of the project facilities.

Procurement

39. Contracts for civil works and the procurement of furniture and equipment would be awarded on the basis of international competitive bidding in accordance with Bank guidelines except that civil works contracts of under $100,000 and furniture and equipment which cannot be grouped into packages of at least US$50,000 would be procured on the basis of local competitive bidding procedures acceptable to the Bank. The total cost of furniture and equipment procured in this manner will not in the aggregate exceed US$300,000 (equivalent to about 12% of the estimated total cost of furniture and equipment). For civil works, the aggregate amount to be procured in this manner will not exceed US$500,000. In the case of procurement under international competitive bidding procedures, domestic manufacturers tendering under international procedures would receive a margin of preference of 15% of the c.i.f. cost or the applicable customs duty, whichever is lower, and regional preferences for other members of the Caribbean Common Market (CARICOM) would be limited to 15% of the c.i.f. price of nonregional goods or the difference in tariffs, whichever is lower.

Disbursements

40. Disbursements of the proceeds of the proposed loan would be made for (a) 50% of total expenditures for civil works: (b) 100% of foreign expenditures for imported, or 85% of expenditures for locally procured furniture and equipment; and (c) 100% of total expenditures for technical assistance and professional fees.

41. Retroactive financing not exceeding US$200,000 would cover expenditures incurred after August 1, 1978 to equip the new premises of the School Buildings and Maintenance Section and for consultant services incurred in bringing the project to an advanced stage of readiness.

Benefits and Risks

42. The project would (a) provide a more effective learning-teaching environment for almost 6,000 primary and over 7,000 secondary school students in the schools (representing about 16% of total enrollments in 1985 in primary and 35% in general secondary education); (b) redress through the program for

secondary school expansion inequities in the education system by eliminating the primary "all-age tops" to which over 3,000, mainly rural children, are presently relegated; (c) develop the model, norms and standards, to increase the efficiency of the education system and its cost effectiveness; (d) support institution-building in the MOE (teacher education, administration training, management and execution capability); (e) broaden the range of BIMAP services, particularly in the area of in-plant training and advisory services to small-scale enterprises benefiting 1,500 workers and 480 middle-management personnel annually. Technical assistance included in the project would help ensure timely and efficient project implementation.

43. The major risk is that there may initially be considerable resistance by teachers' unions and parents to the Government targets for an economic class size and teacher-student ratios. The resistance, if it materializes, should be overcome in time by: (a) the gradual attrition of teachers; (b) provision of suitable physical facilities; (c) the gradual introduction of larger class sizes; and (d) the realization among teachers and parents that the program will not result in any deterioration of education quality.

Evaluation

44. The Government has agreed to discuss its educational policies and plans annually with the Bank and send to the Bank within six months of the closing date of the loan account a full completion report providing an assessment of all components of the project, their results and the experience gained during implementation (Section 3.10 of Loan Agreement).

PART V - LEGAL INSTRUMENTS AND AUTHORITY

45. The draft Loan Agreement between Barbados and the Bank, and the Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement are being distributed to the Executive Directors separately. Special conditions of the project are listed in Annex III, Section 3.

46. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATION

47. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara
President

Attachments
December 5, 1978

BARBADOS - SOCIAL INDICATORS DATA SHEET

LAND AREA (THOUSAND SQ. KM.)
TOTAL 0.4
AGRICULTURAL 0.4

	BARBADOS			REFERENCE GROUPS (ADJUSTED AVERAGES /a - MOST RECENT ESTIMATE)		
	1960 /b	1970 /b	MOST RECENT ESTIMATE /b	SAME GEOGRAPHIC REGION /c	SAME INCOME GROUP /d	NEXT HIGHER INCOME GROUP /e
GNP PER CAPITA (US$)	400.0	970.0	1760.0	1066.7	1796.4	2839.0
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF COAL EQUIVALENT)	375.0	1104.0	1078.0	911.1	1525.0	2376.4
POPULATION AND VITAL STATISTICS						
TOTAL POPULATION, MID-YEAR (MILLIONS)	0.23	0.24	0.25	.	.	.
URBAN POPULATION (PERCENT OF TOTAL)	..	3.7	..	57.9	52.2	..
POPULATION DENSITY						
PER SQ. KM.	538.0	464.0	574.0	25.6	27.6	55.8
PER SQ. KM. AGRICULTURAL LAND	676.0	649.0	676.0	77.6	116.4	83.6
POPULATION AGE STRUCTURE (PERCENT)						
0-14 YRS.	38.3	37.0	37.0	42.0	34.8	40.0
15-64 YRS.	55.3	54.7	55.0	52.2	56.0	55.3
65 YRS. AND ABOVE	6.4	8.3	8.0	3.7	5.7	3.8
POPULATION GROWTH RATE (PERCENT)						
TOTAL	0.9 /f	0.2 /f	0.7 /f	2.7	1.6	2.9
URBAN	..	..	..	4.3	3.4	..
CRUDE BIRTH RATE (PER THOUSAND)	32.2	26.9	18.7	35.8	27.0	31.7
CRUDE DEATH RATE (PER THOUSAND)	12.0	9.4	9.2	9.1	9.9	7.9
GROSS REPRODUCTION RATE	2.3	1.4	1.5	2.6	1.9	1.6
FAMILY PLANNING						
ACCEPTORS, ANNUAL (THOUSANDS)	..	..	..	.	.	.
USERS (PERCENT OF MARRIED WOMEN)	..	..	..	15.1	19.3	..
FOOD AND NUTRITION						
INDEX OF FOOD PRODUCTION PER CAPITA (1970=100)	98.4	100.0	73.3	102.1	103.8	114.7
PER CAPITA SUPPLY OF						
CALORIES (PERCENT OF REQUIREMENTS)	110.0	94.0	133.0	103.9	110.4	113.4
PROTEINS (GRAMS PER DAY)	65.0	73.0 /g	82.5	60.3	77.7	89.9
OF WHICH ANIMAL AND PULSE	..	47.0 /g	52.3	26.7	22.2	48.0
CHILD (AGES 1-4) MORTALITY RATE	3.5	2.2	1.3	8.7	1.9	..
HEALTH						
LIFE EXPECTANCY AT BIRTH (YEARS)	62.7	67.6	69.1	62.6	63.0	60.2
INFANT MORTALITY RATE (PER THOUSAND)	61.0	46.3	37.7	56.9	38.2	22.1
ACCESS TO SAFE WATER (PERCENT OF POPULATION)						
TOTAL	..	98.0	100.0	60.7	67.7	83.0
URBAN	..	95.0	100.0	78.0	83.5	100.0
RURAL	..	100.0	100.0	34.9	41.5	..
ACCESS TO EXCRETA DISPOSAL (PERCENT OF POPULATION)						
TOTAL	..	100.0	100.0	61.1	70.3	57.8
URBAN	..	100.0	100.0	80.3	90.7	99.3
RURAL	..	100.0	100.0	25.4	38.3	..
POPULATION PER PHYSICIAN	2800.0 /h	1890.0	1450.0	1899.3	1310.8	976.9
POPULATION PER NURSING PERSON	650.0	430.0	420.0	1220.1	849.2	676.1
POPULATION PER HOSPITAL BED						
TOTAL	170.0	100.0	110.0	422.3	275.4	325.8
URBAN	..	70.0	90.0	258.2	129.9	250.0
RURAL	..	110.0 /i	170.0 /i	2281.6	965.9	770.0
ADMISSIONS PER HOSPITAL BED	..	9.0	11.0	25.6	18.9	18.7
HOUSING						
AVERAGE SIZE OF HOUSEHOLD						
TOTAL	4.0	3.9	..	5.2	3.9	..
URBAN	..	..	..	..	..	..
RURAL	..	..	..	..	..	..
AVERAGE NUMBER OF PERSONS PER ROOM						
TOTAL	1.2	1.0	..	2.0	0.9	..
URBAN	1.2	1.0	..	2.1	0.8	..
RURAL	..	..	..	2.7	1.0	..
ACCESS TO ELECTRICITY (PERCENT OF DWELLINGS)						
TOTAL	..	59.0	..	51.2	59.2	..
URBAN	..	..	..	77.3	78.0	..
RURAL	..	..	..	12.8	12.5	..

BARBADOS - SOCIAL INDICATORS DATA SHEET

	BARBADOS			REFERENCE GROUPS (ADJUSTED AVERAGES - MOST RECENT ESTIMATE) /a		
	1960 /b	1970 /b	MOST RECENT ESTIMATE /b	SAME GEOGRAPHIC REGION /c	SAME INCOME GROUP /d	NEXT HIGHER INCOME GROUP /e
EDUCATION						
ADJUSTED ENROLLMENT RATIOS						
PRIMARY: TOTAL	96.0	105.0	117.0 /k	103.5	97.6	104.1
FEMALE	96.0	107.0	116.0 /k	102.9	87.4	120.3
SECONDARY: TOTAL	40.0	66.0	59.0 /k	37.2	47.8	44.7
FEMALE	34.0	60.0	61.0 /k	37.9	42.6	46.0
VOCATIONAL (PERCENT OF SECONDARY)	5.0	7.0	7.0	14.7	22.7	18.7
PUPIL-TEACHER RATIO						
PRIMARY	40.0	33.0	..	32.9	25.4	30.6
SECONDARY	29.0	27.0	20.0 /k	17.8	24.9	16.3
ADULT LITERACY RATE (PERCENT)	94.0	97.0	99.0	74.9	96.3	..
CONSUMPTION						
PASSENGER CARS PER THOUSAND POPULATION	35.0	82.0	79.0	26.9	32.3	53.4
RADIO RECEIVERS PER THOUSAND POPULATION	150.0	347.0	477.0	173.5	201.9	195.5
TV RECEIVERS PER THOUSAND POPULATION	..	63.0	203.0	69.4	97.7	108.4
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	85.0	90.0	98.0	72.8	70.9	108.0
CINEMA ANNUAL ATTENDANCE PER CAPITA	7.0	5.0	7.4	4.3	4.4	..
EMPLOYMENT						
TOTAL LABOR FORCE (THOUSANDS)	90.0	90.0	100.0	.	.	.
FEMALE (PERCENT)	41.8	40.0	39.8	21.4	17.4	26.9
AGRICULTURE (PERCENT)	26.0	20.0	18.0	37.8	38.4	25.7
INDUSTRY (PERCENT)	27.1	31.6	..	..	..	..
PARTICIPATION RATE (PERCENT)						
TOTAL	39.6	37.7	40.0	30.8	33.7	40.1
MALE	51.3	48.3	50.3	47.2	50.8	55.8
FEMALE	30.2	28.4	30.6	13.2	12.6	24.7
ECONOMIC DEPENDENCY RATIO	1.2	1.2	1.0	1.7	1.4	1.6
INCOME DISTRIBUTION						
PERCENT OF PRIVATE INCOME RECEIVED BY						
HIGHEST 5 PERCENT OF HOUSEHOLDS	..	19.8 /j	..	28.9	20.2	..
HIGHEST 20 PERCENT OF HOUSEHOLDS	..	44.0 /j	..	57.7	47.9	..
LOWEST 20 PERCENT OF HOUSEHOLDS	..	6.8 /j	..	3.2	3.2	..
LOWEST 40 PERCENT OF HOUSEHOLDS	..	18.6 /j	..	10.7	13.7	..
POVERTY TARGET GROUPS						
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US$ PER CAPITA)						
URBAN	..	..	..	251.9	..	..
RURAL	..	..	..	200.6	157.9	..
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US$ PER CAPITA)						
URBAN	..	..	..	403.1	448.8	..
RURAL	..	..	320.0	258.0	313.1	..
ESTIMATED POPULATION BELOW POVERTY INCOME LEVEL (PERCENT)						
URBAN	..	..	..	24.8	23.2	..
RURAL	..	..	45.0	65.2	54.5	..

.. Not available
. Not applicable.

NOTES

/a The adjusted group averages for each indicator are population-weighted geometric means, excluding the extreme values of the indicator and the most populated country in each group. Coverage of countries among the indicators depends on availability of data and is not uniform.

/b Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961; for 1970, between 1969 and 1971; and for Most Recent Estimate, between 1973 and 1977.

/c Latin America & Caribbean; /d Upper Middle Income ($1136-2500 per capita, 1976); /e High Income (over $2500 per capita, 1976); /f Due to migration, population growth rate is lower than rate of natural increase; /g 1966; /h 1962; /i Government establishments only; /j Income recipient. /k These data are for 1974. Corresponding data for 1976 are: 106, 105, 94, 81 and 17, respectively.

DEFINITIONS OF SOCIAL INDICATORS

Note: The adjusted group averages for each indicator are population-weighted geometric means, excluding the extreme values of the indicator and the most populated country in each group. Coverage of countries among the indicators depends on availability of data and is not uniform. Due to lack of data, group averages for Capital Surplus Oil Exporters and indicators of access to water and excreta disposal, housing, income distribution and poverty are simple population-weighted geometric means without the exclusion of extreme values.

LAND AREA (thousand sq. km)
Total - Total surface area comprising land area and inland waters.
Agricultural - Most recent estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow.

GNP PER CAPITA (US$) - GNP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1975-77 basis); 1960, 1970, and 1977 data.

ENERGY CONSUMPTION PER CAPITA - Annual consumption of commercial energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of coal equivalent per capita.

POPULATION AND VITAL STATISTICS
Total population, mid-year (millions) - As of July 1; if not available, average of two end-year estimates; 1960, 1970, and 1977 data.
Urban population (percent of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries.
Population density
Per sq. km. - Mid-year population per square kilometer (100 hectares) of total area.
Per sq. km. agriculture land - Computed as above for agricultural land only.
Population age structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population.
Population growth rate (percent) - total, and urban - Compound annual growth rates of total and urban mid-year populations for 1950-60, 1960-70, and 1970-75.
Crude birth rate (per thousand) - Annual live births per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970 and five-year average ending in 1975 for most recent estimate.
Crude death rate (per thousand) - Annual deaths per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970 and five-year average ending in 1975 for most recent estimate.
Gross reproduction rate - Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1975.
Family planning - acceptors, annual (thousands) - Annual number of acceptors of birth-control devices under auspices of national family planning program.
Family planning - users (percent of married women) - Percentage of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

FOOD AND NUTRITION
Index of food production per capita (1970=100) - Index number of per capita annual production of all food commodities.
Per capita supply of calories (percent of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds, quantities used in food processing, and losses in distribution. Requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distributions of population, and allowing 10 percent for waste at household level.
Per capita supply of protein (grams per day) - Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by USDA provide for a minimum allowance of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey.
Per capita protein supply from animal and pulse - Protein supply of food derived from animals and pulses in grams per day.
Child (ages 1-4) mortality rate (per thousand) - Annual deaths per thousand in age group 1-4 years, to children in this age group.

HEALTH
Life expectancy at birth (years) - Average number of years of life remaining at birth; usually five-year averages ending in 1960, 1970, and 1975.
Infant mortality rate (per thousand) - Annual deaths of infants under one year of age per thousand live birhts.
Access to safe water (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs, and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.
Access to excreta disposal (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.
Population per physician - Population divided by number of practicing physicians qualified from a medical school at university level.
Population per nursing person - Population divided by number of practicing male and female graduate nurses, practical nurses, and assistant nurses.
Population per hospital bed - total, urban, and rural - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized hospital and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities.
Admissions per hospital bed - Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING
Average size of household (persons per household) - total, urban, and rural - A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes. Statistical definitions of household vary.
Average number of persons per room - total, urban, and rural - Average number of persons per room in all, urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.
Access to electricity (percent of dwellings) - total, urban, and rural - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATION
Adjusted enrollment ratios
Primary school - total, and female - Total and female enrollment of all ages at the primary level as percentages of respectively primary school-age populations; normally includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.
Secondary school - total, and female - Computed as above; secondary education requires at least four years of approved primary instruction; provides general vocational, or teacher training instructions for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.
Vocational enrollment (percent of secondary) - Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions.
Pupil-teacher ratio - primary, and secondary - Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.
Adult literacy rate (percent) - Literate adults (able to read and write) as a percentage of total adult population aged 15 years and over.

CONSUMPTION
Passenger cars (per thousand population) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.
Radio receivers (per thousand population) - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.
TV receivers (per thousand population) - TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.
Newspaper circulation (per thousand population) - Shows the average circulation of "daily general interest newspaper", defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.
Cinema annual attendance per capita per year - Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

EMPLOYMENT
Total labor force (thousands) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc. Definitions in various countries are not comparable.
Female (percent) - Female labor force as percentage of total labor force.
Agriculture (percent) - Labor force in farming, forestry, hunting and fishing as percentage of total labor force.
Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force.
Participation rate (percent) - total, male, and female - Total, male, and female labor force as percentages of their respective populations. These are ILO's adjusted participation rates reflecting age-sex structure of the population, and long time trend.
Economic dependency ratio - Ratio of population under 15 and 65 and over to the labor force in age group of 15-64 years.

INCOME DISTRIBUTION
Percentage of private income (both in cash and kind) received by richest 5 percent, richest 20 percent, poorest 20 percent, and poorest 40 percent of households.

POVERTY TARGET GROUPS
Estimated absolute poverty income level (US$ per capita) - urban and rural - Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.
Estimated relative poverty income level (US$ per capita) - urban and rural - Relative poverty income level is that income level less than one-third per capita personal income of the country.
Estimated population below poverty income level (percent) - urban and rural - Percent of population (urban and rural) who are either "absolute poor" or "relative poor" whichever is greater.

Economic and Social Data Division
Economic Analysis and Projections Department

BARBADOS

ECONOMIC DEVELOPMENT DATA

(in US$ million)

	1970-72 Average	Actual 1974	1975	1976	1977	Est. 1978	Average Annual Growth Rate 1975-78	1976	1977	Est. 1978
NATIONAL ACCOUNTS	Constant 1976 US$ million							As percentage of GDP		
Gross domestic product	344.7	363.6	369.6	394.0	414.9	437.2	4.7	100.0	100.0	100.0
Gains from terms of trade	-11.3	32.5	48.8	--	-21.5	-15.4	-	-	-5.2	-3.5
Gross domestic income	333.4	396.1	418.4	394.0	393.4	421.8	1.6	100.0	94.8	96.5
Imports (including NFS)	308.2	277.3	260.4	284.3	284.9	308.1	2.7	72.1	68.7	70.5
Exports (import capacity)	226.2	222.5	221.9	212.0	237.9	261.2	4.1	53.8	57.3	59.7
Consumption	337.3	363.7	379.8	382.8	348.8	363.0	-	97.1	84.1	83.0
Investment	78.0	87.2	77.1	83.5	91.6	105.7	4.9	21.2	22.1	24.2
Domestic savings	-4.0	32.4	38.6	11.2	44.6	58.8	16.1	2.8	10.7	13.4
National Savings	4.6	30.2	35.5	19.6	51.5	63.6	20.4	5.0	12.4	14.6
MERCHANDISE TRADE	Current US$ million							As percentage of total		
Imports										
Consumer goods	57.5	51.6	51.6	59.9	64.2	69.0	7.5	25.2	23.6	22.3
Intermediate goods (excl. fuels)	30.3	54.6	55.5	61.5	71.0	80.0	10.0	25.8	26.1	25.8
Fuels and lubricants	7.6	15.5	23.1	20.1	18.1	20.0	6.6	8.4	6.7	6.5
Capital goods	31.9	39.3	44.8	47.0	58.2	73.0	16.7	19.7	21.4	23.5
Miscellaneous	..	43.0	41.7	49.6	60.1	68.0	12.1	20.9	22.2	21.9
Total merchandise imports (c.i.f.)	127.3	204.0	216.7	238.1	271.6	310.0	11.0	100.0	100.0	100.0
Exports										
Sugar	14.1	25.4	46.6	23.5	25.3	24.7	-0.7	30.8	27.8	23.8
Clothing	2.3	9.0	13.3	15.2	18.5	22.0	25.0	19.9	20.4	21.1
Other manufactures	9.9	12.9	12.9	17.8	18.0	32.0	25.6	23.4	19.8	30.8
Other	15.2	20.0	21.6	19.7	29.1	25.3	6.1	25.9	32.0	24.3
Total merchandise exports (f.o.b.)	41.5	67.3	94.4	76.2	90.9	104.0	11.5	100.0	100.0	100.0
	1976 = 100									
Goods and NFS trade indices										
Export price index	47.1	100.5	126.9	100.0	103.4	112.3	2.8	-	-	-
Import price index	49.3	85.8	99.0	100.0	112.8	118.9	8.5	-	-	-
Terms of trade index	95.5	117.1	128.2	100.0	91.7	94.4	-	-	-	-
VALUE ADDED BY SECTOR	Annual data at 1976 prices and exchange rate									
Agriculture	44.4	41.1	40.3	43.7	43.7	40.0	-0.7	12.1	11.7	10.3
Industry a/	59.4	64.4	63.4	73.6	77.0	80.2	5.6	20.8	20.7	20.7
Other	196.2	234.0	233.5	237.7	251.5	266.9	3.3	67.1	67.6	69.0
Total GDP factor cost	300.0	339.5	337.2	354.0	372.2	387.1	3.3	100.0	100.0	100.0
PUBLIC FINANCE (Central Government) b/	Annual data at current US$ million							As percentage of GDP		
Current receipts	51.8	87.8	110.2	117.0	131.4	155.0	15.3	29.7	29.5	30.3
Current expenditures	46.9	77.0	85.3	105.8	120.8	143.2	16.8	26.9	27.1	28.0
Budgetary savings	4.9	10.8	24.9	11.2	10.6	11.8	.	2.8	2.4	2.3
Central Government cap. expend. c/	9.5	18.4	24.0	30.3	41.3	41.8	22.9	7.7	9.3	8.2
Savings, consolidated public sector	..	6.4	23.4	11.3	12.0	13.7	.	2.9	2.7	2.7
Capital expend., cons. public sector	..	17.0	23.8	30.7	42.0	42.7	25.9	7.8	9.4	8.4

DETAIL OF PUBLIC SECTOR INVESTMENT PROGRAM AND FINANCING	As percentage of total: Actual FY77/78	Planned FY78-79
Agriculture, forestry and fishing		
Mining and quarrying		
Manufacturing and processing		
Other		
Total expenditures	100.0	100.0
Financing		
Public sector savings	31.6	32.1
External sources	28.1	43.0
Other	40.3	24.9
Total financing	100.0	100.0

SELECTED INDICATORS (average for period shown)	1965-70	1975-77
Average ICOR	2.75*	4.83
Import elasticity	1.06**	0.21
Marginal domestic savings rate	..	0.24
Marginal national savings rate	..	0.41

* 1967-70, ** 1966-70

LABOR FORCE AND OUTPUT PER WORKER	Total Labor Force: In thousands 1970	1976	% of total 1970	1976	Growth rate 1971-76	Value added per worker (1976 prices and exchange rates): In US$ 1970	1976	% of average 1970	1976
Agriculture	14.0	8.9	17.1	9.8	-7.8	3471	4798	99.4	110.8
Mining	..	0.4	..	0.4	..	..	5250		121.2
Industry	24.0	22.0	29.3	24.2	-1.5	2413	3182	69.1	73.5
Services	44.0	59.7	53.6	65.6	5.2	4084	3834	117.0	88.5
Total/average	82.0	91.0	100.0	100.0	1.8	3491	4330	100.0	100.0

a/ Includes mining, manufacturing, construction, and electricity, gas, and water.
b/ Includes National Insurance System and Special Funds administered by the Central Government.
c/ Including capital transfers to rest of public sector.

BARBADOS

BALANCE OF PAYMENTS, EXTERNAL ASSISTANCE AND DEBT

(US$ million at current prices)

	Actual 1974	1975	1976	1977	Est. 1978
SUMMARY BALANCE OF PAYMENTS					
Exports (including NFS)	191.0	219.6	211.8	268.2	313.2
Imports (including NFS)	237.9	257.8	284.3	321.3	366.3
Resource balance (X-M)	-46.9	-38.2	-72.5	-53.1	-53.1
Factor services (net)	-8.3	-10.0	-4.3	-8.7	-11.4
Interest on public debt	(-2.5)	(-2.3)	(-1.9)	(-1.9)	(-3.2)
Other (net)	(-5.8)	(-7.7)	(-2.4)	(-6.8)	(-8.2)
Current transfers (net)	7.3	7.0	12.7	16.1	17.0
Balance on current account	-47.9	-41.2	-64.1	-45.7	-47.5
Net public disbursements	0.6	-0.2	3.9	16.9	16.8
Gross disbursements	(1.8)	(1.5)	(5.7)	(23.9)	(21.2)
Amortization	(-1.2)	(-1.7)	(-1.8)	(-7.0)	(-4.4)
Net private sector investment	5.9	5.3	6.2	4.7	6.0
Capital transactions n.e.i.	45.2	53.8	36.7	29.7	37.2
Changes in reserves (-increase)	-3.8	-17.7	17.3	-5.6	-12.5
GRANT AND LOAN COMMITMENTS (official grant and grant-like) + (public med. & long-term loans)					
IBRD	-	-	-	-	-
IDA	-	-	-	-	-
Other multilateral	9.1	2.3	9.7	12.5	-
Governments (bilateral)	-	3.0	-	10.0	-
Suppliers	1.6	-	-	-	-
Private banks	-	-	1.5	5.7	10.0
Bonds	-	-	-	-	-
Public loans n.e.i.	-	-	-	-	-
Total public M & LT loans	10.7	5.3	11.2	28.2	10.0

EXTERNAL PUBLIC DEBT (repayable in foreign currency)	Outstanding and disbursed as of December 31, 1977: US$ mil.	Percent
IBRD	-	-
IDA	-	-
Other multilateral	7.0	15.2
Governments	19.5	42.4
Suppliers	1.0	2.2
Private banks	18.5	40.2
Bonds	-	-
Public debts n.e.i.	-	-
Total public M & LT loans	46.0	100.0

(in US$ million)

EXTERNAL DEBT AND DEBT SERVICE	Actual 1974	1975	1976	1977	Est. 1978
Public debt					
Outstanding debt at end period	26.7	26.3	30.0	46.0	62.8
Outstanding debt at beginning	25.8	26.7	26.3	30.0	46.0
Interest on public debt	2.5	2.3	1.9	1.9	3.2
Repayment on public debt	1.2	1.7	1.8	7.0	4.4
Total public debt service	3.7	4.0	3.7	8.9	7.6
Other debt service (net)	..	..	..	..	..
Total debt service (net)	..	..	..	..	..
Burden on export earnings 1/ (%)					
Public debt service	2.0	1.9	1.8	3.4	2.5
Total debt service	..	..	..	..	..
Total debt service plus foreign investment	..	..	..	..	..
Average terms of public debt					
Interest as % prior year	9.7	8.6	7.2	6.3	7.0
Amortization as % prior year	4.7	6.4	6.8	23.3	9.6
IBRD debt outstanding & disbursed	-	-	-	-	-
IBRD as % public debt outs. & dis.	-	-	-	-	-
IBRD as % public debt outstanding and disbursed service	-	-	-	-	-
IDA debt outstanding & disbursed	-	-	-	-	-
IDA as % public debt outs. & dis.	-	-	-	-	-
IDA as % public debt outstanding and disbursed service	-	-	-	-	-

1/ Percent of exports of goods and NFS net of factor services.

ANNEX II

STATUS OF BANK GROUP OPERATIONS IN BARBADOS

A. Statement of Bank loans as of November 30, 1978

None

B. Statement of IFC investments as of November 30, 1978

None

C. Projects in execution

None

BARBADOS -- FIRST EDUCATION PROJECT

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

(a) Project Preparation

(i)	Unesco Sector Study	February 1978
(ii)	Identification	03/17/78
(iii)	Preparation of Loan Request Initiated	05/08/78

(b) Project Preparation Agencies

(i) Ministry of Finance and Planning) with assistance by
(ii) Ministry of Education) IBRD/Unesco cooperative program

(c) Appraisal Mission Departure 07/03/78

(d) Completion of Negotiations 10/26/78

(e) Loan Effectiveness Planned 3/30/79

Section II: Special Bank Implementation Actions

None

Section III: Special Conditions

The Government has agreed that:

(a) norms and standards regarding agreed class size and teacher-student ratios would be applied in project schools at latest in the school session immediately after which project works have been completed, and gradually in the general education system as a whole as the physical facilities make it practicable (paras 34(a), 34(b));

(b) specialist remedial teachers would be trained and one appointed to each of the project schools (para 34 (a));

(c) resources would be made available to Erdiston Teacher Training College for the appointment of additional staff (para 34(c));

(d) appointment of additional staff to BIMAP would be made on an agreed time schedule and that annual evaluation reports would be submitted to the Bank (para 34(d));

(e) agreement would be reached between MOE and BIMAP by June 30, 1980 on the use of MOE facilities from time to time for special short BIMAP training programs (para 34(d));

(f) intensive training courses would be organized for key school personnel and education administrators (para 34(e));

(g) arrangements acceptable to the Bank for contracting specialist services and carrying out the fellowship program would be completed by June 30, 1979 (para 34(e));

(h) design drawings, equipment and furniture lists and all contractual documents would be presented for Bank approval prior to bidding (para 38);

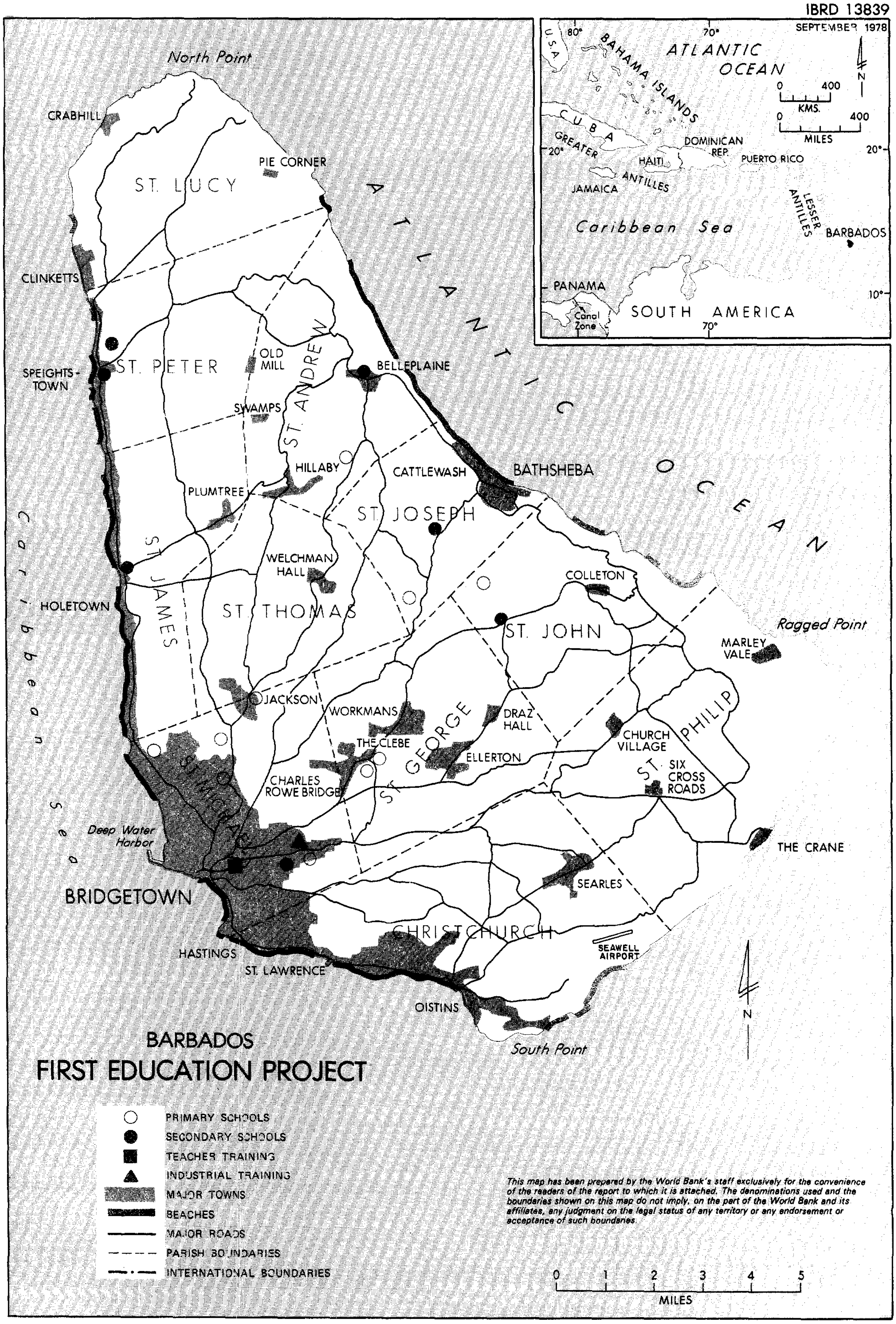
(i) all sites for the project schools would be acquired by March 31, 1979 (para 38);

(j) provision would be made for timely and adequate budgetary allocations to meet annual requirements for operating costs of the project institutions, including BIMAP, and satisfactory maintenance of project schools (para 36);

(k) the Project Unit would be adequately staffed, funded and equipped for efficient operation by June 30, 1979. The Curriculum Development Section and the operational divisions of MOE would provide the Project Manager with assistance on education matters, as required (para 37); and

(l) the borrower would keep the Bank informed of progress in the attainment of the major educational objectives and of any major policies or plans formulated by the borrower (para 44).

IBRD 13839


SEPTEMBER 1978
ATLANTIC OCEAN
U.S.A.
80°
70°
BAHAMA ISLANDS
CUBA
GREATER ANTILLES
HAITI
DOMINICAN REP.
PUERTO RICO
JAMAICA
LESSER ANTILLES
BARBADOS
Caribbean Sea
PANAMA
Canal Zone
SOUTH AMERICA
20°
10°
0 400 KMS.
0 400 MILES
N
North Point
CRABHILL
PIE CORNER
ST. LUCY
CLINKETTS
SPEIGHTS-TOWN
ST. PETER
OLD MILL
SWAMPS
ST. ANDREW
BELLEPLAINE
HILLABY
PLUMTREE
CATTLEWASH
BATHSHEBA
ST. JOSEPH
ST. JAMES
WELCHMAN HALL
HOLETOWN
ST. THOMAS
COLLETON
ST. JOHN
Ragged Point
MARLEY VALE
JACKSON
WORKMANS
DRAZ HALL
ST. PHILIP
CHURCH VILLAGE
THE CLEBE
ELLERTON
ST. GEORGE
CHARLES ROWE BRIDGE
SIX CROSS ROADS
ST. MICHAEL
Deep Water Harbor
THE CRANE
BRIDGETOWN
SEARLES
CHRIST CHURCH
SEAWELL AIRPORT
HASTINGS
ST. LAWRENCE
OISTINS
South Point
ATLANTIC OCEAN
Caribbean Sea
BARBADOS
FIRST EDUCATION PROJECT
PRIMARY SCHOOLS
SECONDARY SCHOOLS
TEACHER TRAINING
INDUSTRIAL TRAINING
MAJOR TOWNS
BEACHES
MAJOR ROADS
PARISH BOUNDARIES
INTERNATIONAL BOUNDARIES
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MILES