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**STAFF APPRAISAL REPORT**

**BARBADOS**

**HUMAN RESOURCES PROJECT**

**JUNE 4, 1993**

**Country Department III  
Human Resources Operations Division  
Latin America and the Caribbean Region**

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## **BARBADOS**

### **HUMAN RESOURCES PROJECT**

#### **CURRENCY EQUIVALENTS**

Currency Unit = Barbados Dollar (BDS\$)  
US\$1.00 = BDS\$2.00 (Appraisal Rate)

#### **FISCAL YEAR**

April 1 - March 31

#### **ABBREVIATIONS AND ACRONYMS**

AVA	-	Audio Visual Aids
BCC	-	Barbados Community College
BLC	-	Barbados Language Centre
BDS\$	-	Barbados Dollar
BIMAP	-	Barbados Institute of Management and Productivity
BSSC	-	Barbados Secondary School Certificate
BSSEE	-	Barbados Secondary School Entrance Examination
BYTS	-	Barbados Youth Training Service
CARICOM	-	Caribbean Community
CXC	-	Caribbean Examination Council
EFL	-	English as a Foreign Language
EPIU	-	Education Project Implementation Unit
ETF	-	Employment and Training Fund
ETTC	-	Erdiston Teacher Training College
GOB	-	Government of Barbados
ICB	-	International Competitive Bidding
IDB	-	Inter-American Development Bank
IMF	-	International Monetary Fund
LCB	-	Local Competitive Bidding
MOE	-	Ministry of Education
MOLCAE	-	Ministry of Labour, Consumer Affairs and the Environment
MRSU	-	Manpower Research and Statistics Unit
NACE	-	National Advisory Commission on Education
NEB	-	National Employment Bureau
NTB	-	National Training Board
PEP	-	Public Expenditure Program
PPF	-	Project Preparation Facility
SAL	-	Structural Adjustment Loan
SJPP	-	Samuel Jackman Prescod Polytechnic
SOE	-	Statement of Expenses
S/T	-	Student/Teacher
TA	-	Technical Assistance
TVET	-	Technical and Vocational Education and Training
UWI	-	University of the West Indies

## BARBADOS

## HUMAN RESOURCES PROJECT

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This report is based on findings of an appraisal mission which visited Barbados in June/July 1992. The mission comprised Ms. Miriam Schneidman (Mission Leader), Mr. Bob Freeman (Consultant, Technical Educator), Ms. Bettina Moll-Druecker (Consultant, Educator), and Ms. Irene Xenakis (Consultant, Architect/Implementation Specialist). A post-appraisal mission took place in February 1993 and was comprised of Ms. Miriam Schneidman (Mission Leader), Mr. Bob Freeman (Consultant, Technical Educator), Mr. Michael Gomez (Consultant, Economist), and Ms. Maria-Victoria Lister (Operations Assistant). The peer reviewers for this project were Messrs. Arvil Van Adams (PHREE), Robert McGough (ASTPH), and Dave Fretwell (EMTPH). Jacques van der Gaag and Yoshiaki Abe are respectively the managing Division Chief and Department Director.

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MAP IBRD Number 24710

**BARBADOS**  
**HUMAN RESOURCES PROJECT**  
**BASIC DATA**

**Land Area:** 430 sq. km.

**Population:**

Total Population (1990)	257,000
Density	598 per sq. km.
Average Annual Growth (1987-91)	0.4%
Literacy	99.3%

**Academic Year:** September to August

**Enrollment (1992-93)**

Total Primary Enrollment:	27,858
Of which Male:	14,169
Female:	13,689
As percentage of age group (5-11):	98.0
Total Number of Teachers:	1,430
Total Secondary Enrollment:	21,196
Of which Male:	11,272
Female:	9,924
As Percentage of age group (12-16):	95.0
Total Number of Teachers:	1,202

**GNP Per Capita (1990)** US\$6,540

**Government Recurrent Expenditures on Education (1990/91):**

As Percentage of Government Expenditures:	20.0
As Percentage of GDP:	6.0



**BARBADOS**

**HUMAN RESOURCES PROJECT**

**LOAN AND PROJECT SUMMARY**

**Borrower:** Barbados

**Beneficiaries:** Ministry of Education  
Ministry of Labour, Consumer Affairs and the Environment  
Ministry of Housing, Lands, Community Development and Culture  
Ministry of Civil Service

**Loan Amount:** US\$7.8 million equivalent

**Terms:** 15 years including a five-year grace period, at the standard IBRD interest rate.

**Project Objectives  
and Content:**

The principal objective of the proposed IBRD project would be to strengthen the country's human capital base by expanding the availability of trained manpower. The specific objectives would be: (i) to strengthen the quality and efficiency of basic education, with a view to raising student achievement; (ii) to improve the effectiveness, efficiency and responsiveness of technical and vocational education and training (TVET); and (iii) to reinforce employment services and labor market information. To these ends, the project would include four components.

**The General Education Support Component** (31 percent of total project costs) aims to reinforce the basic education foundation by improving the quality of services and raising internal efficiency. This objective is supported by both this project and a parallel IDB-funded operation. The upgrading of general education would be accomplished through the provision of: staff training; textbooks/reference materials and learning resources; infrastructure upgrading; and reinforcement of MOE institutional and policy development capabilities. Staff training aims to improve the quality of teaching, encourage use of information technology, and strengthen school management. The project would support the expansion of innovative and cost effective instructional strategies such as multi-grade teaching and school-based training. Assistance would also be provided to design, implement, and evaluate the Government's education reform and cost recovery programs.

**The TVET Development Component** (60 percent of total project costs) aims to increase the effectiveness of TVET programs through the provision of key inputs to the learning process (i.e., instructor training, learning materials, curriculum/program improvements and institutional reinforcement) and to raise efficiency through increased sharing of facilities, expanded use of program review/evaluation procedures, and introduction of user fees in post-secondary education. Responsiveness would be improved through the introduction of flexible curricula, enhanced capabilities to evaluate performance and to design/implement new programs, provision of incentives to post-secondary institutions to enter into training contracts with industry, and increased accountability of institutions. A new multi-certification level teacher training

program would be designed and implemented, curriculum development specialists would be trained, and materials, resources and fellowships would be provided, as well as support for selective TVET training programs for unemployed youths and civil servants, and for the establishment of a pilot industry service unit at the Barbados Community College. To reinforce institutional capabilities, support would be provided for the establishment of a TVET Policy Coordinating Council, which would, *inter alia*, elaborate policies and plans; establish performance targets; design an articulation manual; and advice on resource allocation. This component would also support the establishment of an Employment and Training Fund, under the auspices of the TVET Council, which would finance sub-projects supporting skills upgrading of unemployed workers and expanding in-company training.

The **Labor Market Support Component** (3 percent of total project costs) would provide assistance for computerizing the employment information and placement system and strengthening educational and occupational counselling at the National Employment Bureau, and for increasing the capacity of the Manpower Research and Statistics Unit to analyze and disseminate labor market information.

The **Project Administration Component** (6 percent of total project costs) would provide support for strengthening the Education Project Implementation Unit through consultant recruitment, purchase of equipment, and provision of training.

**Benefits:**

The principal benefits of the project are the quality, efficiency and equity gains. Reform of the national examinations and certification system would broaden educational opportunities and the design/introduction of cost and financing strategies would allow the Ministry of Education to cope with the challenge of increasing quality in light of growing fiscal pressures. The establishment of a Policy Coordinating Council would enhance policy, planning, and coordinating capabilities in the TVET sub-sector while the creation of an Employment and Training Fund would allow the Government to address the retraining needs of the labor force. Strengthened employment services would contribute to accelerating labor absorption and lowering unemployment benefits.

**Risks:**

The project faces the following risks: (i) uncertainty over the medium-term macroeconomic environment, which may adversely affect the availability of counterpart funding and the returns on education and training; (ii) the potential difficulties the Government may face in addressing politically and socially unpopular sector reforms, which may adversely affect various stakeholders; and (iii) the complex and broad scope of the operation. These risks will be mitigated by phasing the project over a 7-year period, seeking assurances on the timeliness of counterpart funding, supporting workshops aimed at generating a broad based consensus for policy reforms, and establishing an appropriate implementation framework.

## I. MACRO AND SECTORAL BACKGROUND

### Economic Overview

1.1 Since independence in 1966 Barbados has experienced stable social and political development and sound economic management. With output growing at 3.2 percent and population increasing at 0.5 percent per year, the standard of living has risen steadily during this period and is today among the highest in the Caribbean and Latin America, as reflected in a per capita GNP of US\$6,540 and a life expectancy at birth of about 75 years (1990). Illiteracy is virtually nonexistent in this population of 257,000 and the educational level of the labor force is high, with over 70 percent having at least a secondary education level, and about 50 percent employed in white collar work.

1.2 Since the early 1980s, however, Barbados' external competitiveness has gradually weakened. Increases in domestic cost factors, stemming from expansionary demand management policies and inflexible wages, have contributed to a significant exchange rate appreciation. Moreover, distortions in trade and tax policies have promoted the development of an inefficient import-substituting manufacturing sector. As a result, investment in both the public and private sectors has declined, while the high cost of output in the main foreign exchange generating activities (sugar, tourism, and manufacturing exports) has led to declining market shares. By the early 1990s, the country experienced serious internal and external imbalances as the economy fell into a deepening recession, which was exacerbated by weakening economic activity among Barbados' major trading partners and by a sharp drop in tourism. The fiscal deficit and Central Bank lending to the public sector reached unsustainable levels and foreign exchange reserves plummeted to a historical low (i.e. less than 2 weeks at the end of 1990). Real GDP declined by 4 percent annually during the past three years, and the unemployment rate climbed to somewhat less than 25 percent.

1.3 To address these economic difficulties and promote financial stability, the Government of Barbados (GOB) embarked on a 16-month IMF-supported stabilization program in February 1992. The strategy was to adopt tight fiscal, monetary and incomes policies while maintaining the exchange rate parity. More specifically, the program aims to: (i) eliminate the overall fiscal deficit in FY92/93 through revenue generating and expenditure reduction measures (including an 8 percent cut in public sector wages and the release of 3800 workers); (ii) introduce a restrained monetary policy, replacing instruments of direct control with a more market-oriented approach; (iii) adopt an incomes policy, which involves a 2-year public sector wage freeze and recommended wage guidelines for the private sector; and (iv) undertake structural reforms in the tax system, the Tourism Board, the Barbados National Bank, and the sugar industry, as well as the divestment of three public enterprises. Most of the stabilization objectives have been achieved, with significant progress in restoring internal and external balances. Nevertheless, there have been delays in launching some structural reforms, and increased uncertainties over the Government's incomes policies, which could affect the viability of the stabilization program.

1.4 To accelerate economic and social development in Barbados it will be essential to also address the underlying structural deficiencies. Discussions have been underway with the GOB on the details of a possible IBRD/IDB funded structural adjustment loan (SAL), which would aim to restore competitiveness, correct internal and external imbalances, liberalize the trade regime, reform the productive sectors, introduce a transparent incentive system for private investment, remove impediments to labor mobility, and rationalize public sector expenditures, while maintaining adequate levels of social sector spending.

## **Education and Training Sector Overview**

1.5 Barbados has attained *universal coverage* in primary and secondary education, which has been facilitated by a strong Government commitment to education, a free education policy, and demographic changes leading to a reduction in the school-age population. Use of automatic promotion procedures in basic education<sup>1</sup> has virtually eliminated repetition. In 1992/93, some 28,000 students were enrolled in primary schools, approximately 21,000 attended secondary schools and about 6,650 were enrolled in post-secondary institutions, representing net enrollment rates of 98, 95, and 20 percent at the primary, secondary, and post-secondary levels, which are comparable to rates in the most developed countries of Latin America and the Caribbean. The allocation of enrollments in post-secondary institutions in 1992/93 was as follows: University of West Indies (UWI): 2,408; Barbados Community College (BCC): 2,352; Erdiston College: 168; and Samuel Jackman Prescod Polytechnic (SJPP): 1,723.

1.6 Formal technical and vocational education and training (TVET) is provided at two institutions under the Ministry of Education (MOE). BCC provides post-secondary technician-level education and training in such areas as commerce, health sciences, hospitality studies, and foreign languages. The Barbados Language Center at BCC provides foreign language training, mainly to the tourism and business sectors, and an English as a Foreign Language (EFL) program to regional participants. SJPP offers vocational and craft level trades programs to lower and upper secondary school graduates in such disciplines as automechanics, electronics, and plumbing. At the secondary level, courses are provided in home economics, business education, industrial arts, and arts & crafts.

1.7 Non-formal technical/vocational training is provided by a number of other ministries and by the private sector. For youths who have limited access to formal education, the National Training Board (NTB, Ministry of Labour, Consumer Affairs and the Environment) provides short-term basic vocational skills training, reaching some 500 students annually, and administers an apprenticeship training scheme, in collaboration with the private sector, for another 150 apprentices annually, while the Barbados Youth Training Service (Ministry of Housing, Lands, Community Development and Culture) recruits and trains about 100 unemployed youths annually in vocational trades, arts and crafts, and farming. The Training Administration Division of the Civil Service Ministry enrolls approximately 425 civil servants in about 30 management and administration courses annually. Private training is rather limited, focusing mainly on the service sectors, with a small number of private agencies providing courses for adults. The Academy of Commerce and Technical Studies, Barbados Workers' Union Labour College and Barbados Institute of Management and Productivity (BIMAP) provide courses in a wide range of subjects such as bookkeeping, word processing, computer programming, occupational health and safety, and customer relations. Other training programs are carried out by trade, employer and professional associations. For example, the Barbados Employers Confederation has a program of short training courses and seminars in business and management; the Barbados Hotel Association provides courses covering the range from management to skills upgrading for its members. Some of the larger corporations carry out their own in-service training but the majority of firms rely on the public institutions for trained manpower since they lack the economies of scale and in-house capabilities.

1.8 Teacher training is provided at Erdiston Teacher Training College, which caters to primary and secondary school instructors; at the BCC, which collaborates in training industrial arts teachers; and at

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<sup>1</sup>Basic education is used interchangeably for primary and secondary education.

the UWI, which provides graduate level courses for school managers and certifies university graduates to become secondary school teachers. The MOE also sponsors courses and workshops for teachers. In contrast to basic education, training programs for technical and vocational education teachers are limited in number and scope. Erdiston College, in collaboration with the BCC and the SJPP, provides a secondary school teacher certification program, which graduates some 16 industrial arts teachers every two years; and the NTB offers a 1-week course for its own demonstrators. No other courses are available for BCC and SJPP technical educators.

## II. EDUCATION, TRAINING, AND EMPLOYMENT

### Key Sector Issues

2.1 **Primary and Secondary Education** In spite of the impressive coverage achievements of the post-independence era, the education and training system still suffers from problems of quality and efficiency. This section deals with qualitative deficiencies and disparities while the costs and financing section below addresses the efficiency issues. Key factors contributing to *poor quality* include: weaknesses in instruction, lack of textbooks and instructional materials/technologies, inadequacies in infrastructure, institutional weaknesses and deficiencies in the examinations and certification system. Primary and secondary school staff are not sufficiently trained to diagnose and address learning deficiencies and to effectively promote innovative instructional strategies (i.e., multi-grade teaching, school-based training). This situation is exacerbated by the absence of textbooks (particularly in primary education) and of innovative instructional materials and technologies, which prevent teachers from using creative teaching and learning strategies. There is a shortage of school-based library resources, with most primary schools relying on the services of two mobile library vans operated by the National Library and on assistance from the Audio Visual Aids (AVA) Department at the MOE. The services of the National Library are hindered by inadequate accommodations, limited materials and resources, and lack of computerization. There is a need to establish school-based libraries, which have been shown to play an important contributing role in raising student achievement and enhancing the returns on other investments, such as teacher training<sup>2</sup>. While considerable progress has been made in infrastructure upgrading during the last decade some children still attend school in facilities of substandard quality. The quality of instruction is particularly poor in small, poorly staffed and dilapidated rural primary schools, and in 'composite' schools (facilities used mainly by primary school students, but which also accommodate low scoring secondary students). With respect to institutional capabilities, a number of key areas (i.e., education planning, financial management, testing and measurement) remain weak due in part to shortages of trained staff at the MOE. The absence of a strong MOE planning unit has resulted in a failure to predict the decline in school enrollments during the last decade, which resulted in the overtraining of teachers.

2.2 There is a growing recognition among education authorities in Barbados that the current examinations system has adverse effects on the curriculum and instruction, and ultimately on the quality of education, and on learning achievement. The education and training system relies on two examinations, (which determine future educational options of students) rather than a series of continuous assessment diagnostic tests. The Barbados Secondary School Entrance Examination (BSSEE or '11 plus

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<sup>2</sup>See Fuller, Raising School Quality in Developing Countries: What Investments Boost Learning?, World Bank, PHREE, 1985; and Mahar, M.E., The Teaching-Learning Role of Media Centers/Libraries, World Bank, 1982.

exam'), and the Caribbean Examinations Council (CXC) school graduation examination open up opportunities for the 'high fliers' and close doors for most other students. The BSSEE is still used mainly as a selection mechanism for allocating secondary school places, even though capacity is now considered adequate. At the primary level, the exam tends to restrict the curriculum in the upper classes to subjects tested on the exam, and to lead to a disproportionate attention devoted to students likely to do well, to the detriment of the less able students. At the secondary level, the BSSEE has a demotivating effect on schools receiving a high proportion of students with low marks, reinforces the public perception of a pecking order of schools, and results in a substantial amount of remediation, particularly since only 50 percent of the children perform well on the exam. Moreover, the selection at the age of eleven does not take into account that children develop at different rates nor make any provision for the 'late bloomers'. A related concern is the mechanism for transfer to secondary schools, that is based on student scores and preference, and results in heavy commuting, which is reflected in high transportation subsidies. Additional issues include the relatively low achievement rates and the limited certification of secondary school graduates. It is estimated that more than half of secondary students fail the CXC secondary school graduation exam. During 1984-89, academic achievement levels deteriorated, with the success rate on the CXC English exam dropping from 62 to 40 percent, while that for mathematics declined from 52 to 42 percent. The Barbados Secondary School Certificate (BSSC), which is used as an alternative to the CXC, has declined in use and is generally regarded as outdated and inappropriate.<sup>3</sup> The education system produces a small, highly educated elite, while many young people leave school with no recognized qualifications and poor functional skills for coping with the labor market, which contributes to the disproportionately high percentage of unemployed youth<sup>4</sup>.

**2.3 Technical and Vocational Education and Training (TVET)** The issues facing post-secondary TVET programs are similar to those at the primary and secondary levels but even more acute since there tends to be a strong focus on academic training. The salient issues can be summarized as follows. First, the generally *poor quality* of most TVET programs, which is related to weaknesses in TVET instruction; lack of access to instructional materials; and curriculum deficiencies. Weaknesses in TVET instruction are attributable to the absence of teacher training programs beyond the basic level, with the exception of those for secondary school teachers, and to the lack of an appraisal/feedback system. An additional issue affecting the quality of instruction is the lack of pay equity, which hinders the recruitment of the most qualified individuals. A study was recently carried out with Project Preparation Facility (PPF) funding to review the qualifications and requirements of tutors, instructors, and demonstrators, with a view to ensuring equity within and across institutions, especially as it pertains to recognition of relevant industry and business experience. The study has documented a series of anomalies which need to be rectified in order to ensure pay equity.<sup>5</sup> The consultant report has been reviewed by both the Ministries of Education and Civil Service, and an agreement has been reached on the need to implement the majority of the recommendations. Technical/vocational programs are also poorly endowed with up-to-date instructional materials and technologies and library resources. Libraries at the post-secondary institutions, such as the BCC, suffer from chronic shortages of reference materials and resources on technical and

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<sup>3</sup>William B. Dockrell, Report on Educational Testing and Measurement, May 1988.

<sup>4</sup>Out of a total of some 24,000 unemployed during the last quarter of 1991, about 10,000 were under the age of 25. Barbados Statistical Service, "Monthly Digest of Statistics", No. 34, December 1991.

<sup>5</sup>Review and Assessment of Salaries and Conditions of Service of Technical/Vocational Teachers, December 1992.

vocational education which are essential for teacher training, while the SJPP suffers from a scarcity of audio-visual equipment and instructional supplies which hinders teacher training. Vocational teacher education reform around the world has recognized the importance of expanding both the teachers' technical knowledge base and their pedagogic skills.<sup>6</sup> Curriculum deficiencies stem from the absence of staff training, inappropriate accreditation standards, and lack of rigorous program review procedures. Only a limited number of TVET educators are trained in specialized areas such as curriculum development, which implies that a number of TVET programs are not designed to reflect local needs (e.g. some SJPP programs use the London-based City and Guilds to certify graduates). Program advisory committees are not used systematically, resulting in the provision of courses which do not always respond to private sector needs. As Barbados begins to move through a period of economic restructuring TVET post-secondary institutions will have to react expediently, by better catering to the needs of the private sector, underscoring the importance of effective use of program advisory committees.

2.4 Second, *weaknesses in targeted training programs* for which demand is increasing. It is expected that many traditional jobs will be replaced with new types of work during the economic restructuring, which implies that special training initiatives will be needed to help target groups (e.g., youths, civil servants). For example, the Barbados Youth Training Service (BYTS) is a relatively young program which suffers from underfunding, and is therefore able to accommodate only a small fraction of the applications received. Likewise, the Training Administration Division of the Civil Service Ministry will increasingly need to provide skills upgrading courses to civil servants to deal with changing needs. The Training Administration Division has experienced a growing demand for its services, which are being delivered in an effective and cost efficient manner. To permit the organization to increase its capacity an expansion of physical accommodations will be required. Economic restructuring will also imply that post-secondary institutions will need to respond expeditiously to private sector needs. The Barbados Community College has already taken a lead in organizing courses (i.e., computer sciences, food safety, English as a Foreign Language) on a cost recovery basis. In order to assist the BCC to provide such services more systematically and on a broader scale, there is a need to strengthen these services and to establish an industry services unit, which would facilitate the contracting of courses for the private sector.

2.5 Third, *inadequate institutional capabilities* in the areas of planning and coordinating of TVET programs. The National Training Board, a tripartite statutory body, has the legislative mandate which provides for high-level strategic planning and coordination of TVET<sup>7</sup>, but its activities have been focused on the provision of basic skills training programs. The absence of a strong institutional framework has led to lack of a national training plan, some duplication in courses and programs at post-secondary institutions; and little follow-up of graduates to determine their subsequent employment experience or to evaluate the course content in relation to job needs. Weak managerial and administrative capabilities at some post-secondary institutions (i.e., SJPP) is another factor hindering the effectiveness of TVET

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<sup>6</sup>This phenomenon of 'dual information explosion' has been recognized by Shulman, the Carnegie Forum, and the Holmes Group as an important emphasis for vocational teacher education reform in North America; see Shulman, L.S. (1987), Knowledge and teaching: Foundations of the new reform, Harvard Educational Review, 57 (1); Carnegie Forum on Education and the Economy (1986), A nation prepared: Teachers for the 21st century, New York: Carnegie Corporation; and Holmes Group, Inc. (1984), Tomorrow's Teachers: A report of the Holmes Group, East Lansing, MI: Author.

<sup>7</sup>The Occupational Training Act of 1979, which established the NTB, stipulated that the organization would "take such measures as it considers necessary to ensure an adequate supply of trained manpower in occupations in all branches of economic activity in Barbados".

programs. The management of post-secondary institutions need to be provided with more autonomy and responsibility in the use of their resources and made more accountable in attaining performance and outcome targets. Finally, no efforts have been undertaken to rectify the generally poor public image of technical/vocational careers, which represents a constraint to attracting competent candidates. As in many other countries, most parents would prefer their children to enter white-collar professions or jobs which require university training. A promotional campaign is needed to inform the public and educational authorities about the importance and economic benefits of technical/vocational careers and to encourage parents and students to seriously consider the TVET option at the post-secondary level. Cognizant of these deficiencies, the Government has recently agreed to limit the activities of the NTB to basic skills training and to establish a high-level Policy Coordinating Council, under the Ministry of Labour, Consumer Affairs and the Environment, to oversee the planning and coordination of TVET programs. Effective coordination will be essential during this period of fiscal austerity, to ensure that scarce resources are used in a cost effective manner and that priority programs are sustained while low priority activities are discontinued. The Government has also decided to set up an Employment and Training Fund (ETF) under the Council, to support skills upgrading of the labor force, and to foster a larger private sector role in the provision and financing of training.

**2.6 Costs and Financing** Historically a substantial share of national resources has been devoted to education and training, particularly as education is free at all levels. During the past decade public expenditures on education and training (MOE only) averaged about 20 percent of the Government's recurrent budget, or roughly 6 percent of GDP, placing Barbados towards the upper end of the spectrum in terms of educational outlays in the Caribbean, and in the developing world. Since the recent economic downturn, however, the MOE recurrent budget dipped to about 16 percent of the total Government recurrent budget (1991-92), which resulted in reductions in primary and secondary education teachers, the school lunch program, student transportation, and University transfers. Of particular concern are the meager resource allocations for supplies/instructional materials and maintenance of school buildings<sup>8</sup>. Authorities recognize that it will be increasingly difficult to sustain the past level of financial commitment, which emphasizes the need to strengthen financial planning, improve the efficiency of resource utilization and expand cost recovery. During the last decade weaknesses in educational and financial planning have resulted in an excess recruitment of teachers without consideration for cost containment. In addition to reinforcing educational planning, there is a need to prepare a five-year education public expenditure program, which is consistent with the Government's education strategy and budgetary constraints and includes clear targets on internal efficiency indicators and cost recovery.

**2.7** Standard indicators of *internal efficiency* (i.e., student/teacher ratios) suggest that there is considerable scope for improving resource utilization. Student/teacher (S/T) ratios have been historically low in Barbados in comparison to international standards, though average for the Caribbean.<sup>9</sup> At the

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<sup>8</sup>A recent MOE inventory of the physical condition of all primary schools revealed that about 40 percent of the facilities need major repairs and/or replacement.

<sup>9</sup>The Study on "Access, Quality and Efficiency in Caribbean Education" (World Bank, April 27, 1992) indicated that S/T ratios at the primary level stand at 29:1 and 30:1 in lower middle-income and higher middle-income countries, respectively; at the secondary level, the median ratio for a group of middle-income African countries was 30:1, in contrast to a ratio of 17:1 for the Commonwealth Caribbean countries.

primary level, the problem is compounded by the existence of a large number of small schools, while in secondary education the key issue is the wide range of subject options provided, particularly in the technical/vocational programs. The recent British Council report "Efficiency and Effectiveness in Technical and Vocational Education" estimated that vocational courses in secondary schools are at least 20 percent more expensive to provide than academic courses due to the low class sizes and excessively high unit costs.<sup>10</sup> In the context of the Second Education and Training Project (IBRD/IDB), signed in 1986, the Government made a commitment to maintaining S/T ratios above the 1983/84 levels (23:1 and 19:1 at the primary and secondary levels, respectively). Efforts to meet these targets have produced positive results in a number of amalgamated primary schools. Systemwide, however, the results have been unsatisfactory. From 1986 to 1989 the expansion in recruitment of primary teachers graduating from Erdiston College resulted in a drop in the S/T ratio from 20:1 to 18:1 in primary education. Since 1989 the Government has taken actions to stop/reverse this declining trend at the primary level, with the ratio brought back to 20:1 (1992/93). At the secondary level the S/T ratio has stagnated at 18:1 since 1986.

2.8 The country's fiscal difficulties, the adequate pool of trained teachers, and the projected decline in the school-age population imply that a continued and intensified effort at raising S/T ratios will be required. *The Government plans to raise S/T ratios to 23:1 in primary education and 19:1 in secondary education by January 1996 and to maintain them above these levels thereafter. By project completion, the target is to raise S/T ratios to 25:1 and 21:1, in primary and secondary education, respectively.* To this end, the MOE proposes the following strategies: (a) continuing the amalgamation of small, uneconomical schools; (b) introducing multi-grade teaching; (c) expanding pre-primary enrollments and accommodating a growing number of secondary school students affected by the closure of private schools; and (d) concentrating TVET course offerings on upper secondary and/or on a limited number of schools. This would imply, inter alia: establishing minimum enrollment levels for certain vocational options and closing down those which fall below these levels; reducing the number of work shops in operation at the secondary level and expanding access to SJPP and NTB shops; and reviewing/reassessing the operating days/hours of schools, with a view to improving capacity utilization. The details of the restructuring of secondary technical/vocational course offerings, which is linked to the broader MOE education reform (para. 2.12) remain to be worked out prior to project effectiveness. In addition, MOE officials recognize that while Erdiston has historically played a pivotal role as a provider of initial teacher training, its mandate needs to be revised, particularly given the exceptionally low S/T ratio at the College (7:1 in 1990/91). Government has therefore suspended initial teacher training at the primary level and has recently taken the decision to assign the responsibility for the programs currently delivered by the in-service section of the Faculty of Education of the UWI (i.e., Diploma in Education, Certificate in Administration and Supervision) to Erdiston College. This arrangement would lower the financial burden on the Government and would permit Erdiston College to operate at a higher level of efficiency.

2.9 The level of *cost recovery* (i.e., rental of textbooks and petty fees in secondary schools; and school fees for evening students and registration fees in tertiary education) represents less than 3 percent of the total education recurrent budget. As the Government grapples with the deteriorating financial situation, various initiatives are being taken to develop new cost recovery policies and sources of funding. With the approval of its Board of Management, the BCC is taking an active role in elaborating a cost

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<sup>10</sup>The cost per student is highly dependent on class size, varying from a range of BDS\$800-940 in a class of 20 to BDS\$1600-1880 in a class of 10; the cost range for a two-year vocational course was estimated at BDS\$15,500-18,800.

recovery policy based on the following strategies: (i) expanding course offerings in short self-funding programs for the general public; (ii) broadening its contractual work for the private sector; (iii) reviewing/reassessing materials and course fees for evening students; and (iv) incorporating some College activities (i.e., furniture construction) into the programs of the Technology Division. As of 1992/93, the SJPP introduced materials fees ranging from BDS\$100-500/year depending on the course. In September 1992, the annual textbook rental fee in secondary education was increased to BDS\$75 (from BDS\$20) per student, and weekly school meal fees of BDS\$1.0 per student and BDS\$5.0 per teacher were introduced. The introduction of these various fees constitutes a positive step in the right direction, even though the overall level of revenues generated remains modest. In some cases fees have been introduced in somewhat of an ad hoc manner, without identifying clear exemption guidelines, which runs the risk of excluding qualified students from low-income families.

2.10 In the case of the University of West Indies (Cave Hill Campus, Barbados), progress towards introducing tuition fees has been slow. In 1991, the UWI Council launched a comprehensive study on tuition fees, which acknowledged the dilemma facing regional Governments: deteriorating financial situations and continuing social pressures to expand access and quality of tertiary education while ensuring equality of opportunity.<sup>11</sup> The report documents the need to transfer to beneficiaries an increasing proportion of the costs of tertiary education and proposes a mechanism based on economic cost.<sup>12</sup> A strong case is made for the provision of loans/grants for needy students from disadvantaged socio-economic groups. The Government of Barbados has been reluctant to introduce fees at the University, even though from an equity point of view it would seem only fair to ask for a greater financial contribution from the small minority of students who benefit from higher level training. Nevertheless, there is now a growing recognition that Barbados will be compelled to join the ranks of countries which have introduced a tuition system at the University and at other tertiary institutions.<sup>13</sup> The main concern of Barbadian authorities is the scope and pace of implementation of these reforms. The priorities at this stage are: to monitor the impact of the recently introduced fees; to elaborate a comprehensive cost recovery program; identify exemption guidelines; design alternative financing mechanisms; and carry out public information/education campaigns to foster a broad based consensus for the reform measures.

2.11 **Employment/Labor Market** In addition to the issues discussed above, human capital development in Barbados will also necessitate an improvement in public employment services (i.e., placement and counselling), particularly to the extent that private employment services are limited in number and scope and cater primarily to the upper ends of the labor market. *Inadequacies in employment services* slow down labor absorption and contribute to the heavy financial burden on the

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<sup>11</sup>Report of the Committee on Tuition Fees, The University of West Indies, June 8, 1991.

<sup>12</sup>Proposed fees for the academic year 1992/93 was 10 percent of economic cost while for the 1993/94-1995/96 period the fee was 15 percent.

<sup>13</sup>It is generally recognized that students and parents would have a greater stake in the efficient operation of educational institutions if they are required to increase their participation. The Policy Option Paper supports the position of introducing user fees at the tertiary level, and points out that "students and parents tend to have a greater need to derive value for money when they are called upon to increase their share of private financing". Likewise, the British Council report "Efficiency and Effectiveness in TVET" points out that international evidence suggests that parents making contributions to examinations costs would be more likely to increase their interest in the courses provided and in the outcome, hence contributing to greater efficiency and effectiveness.

Government, in terms of unemployment benefits. Public employment services have historically focused on the placement of unskilled and low-skilled manpower in overseas jobs. As the unemployment situation worsened during 1989-91 the National Employment Bureau (NEB) was ill equipped to keep pace with the rising number of job seekers, with the overall ratio of placements to registrants dropping from .83 to .19.<sup>14</sup> The NEB has been unable to broaden its work program due primarily to lack of computerization, a shortage of trained staff, and cumbersome administrative procedures. The Bureau has been carrying out its work manually, operating out of one placement office, which limits access to some groups. There is a growing recognition at the Ministry of Labour that the current registration system is inefficient, to the extent that registration for job seekers and unemployment benefit claimants takes place at separate locations. There is also considerable scope for expanding the Bureau's pro-active counselling and guidance activities, which represent an effective strategy for reaching youths. The production and dissemination of labor market information by the Manpower Research and Statistics Unit is also hindered by the lack of trained personnel and staff turnover.

### **Government Strategy**

2.12 A draft copy of the 1993-2000 education development plan was recently submitted to the Bank. The Government's overall education strategy is to improve quality, cost efficiency and educational opportunity. To address these three pivotal issues a major education reform has recently been launched with the following objectives: (i) replace the Barbados Secondary School Entrance Exam with continuous assessment exams, which would improve learning achievement; (ii) permit access to secondary schools from the catchment area, which would lower transportation costs; (iii) introduce certificates of learning; (iv) provide a broad based lower secondary education (up to 3rd form), which would increase flexibility, adaptability, and employability, in addition to strengthening the general education foundation; and (v) concentrate/consolidate TVET course offerings in upper secondary and/or in strategically placed schools, which would generate considerable cost savings. The details of this program remain to be worked out, in collaboration with the National Advisory Commission on Education, with particular attention to generating a broad based national consensus on the reform which will have major implications for all stakeholders.

2.13 In the area of TVET, the Government's strategy includes the following elements: (a) raising effectiveness, efficiency and responsiveness of public TVET programs; (b) improving management and planning; and (c) encouraging the expansion of private sector training. The centerpiece of this strategy is the establishment of a TVET Policy Coordinating Council, which is expected to: (i) formulate TVET policies, plans and investment priorities; (ii) establish standards and performance targets for TVET programs; (iii) coordinate the provision of TVET programs; (iv) advise on the overall resource allocation for TVET; and (v) administer an Employment and Training Fund (ETF). The ETF would finance sub-projects supporting skills upgrading of unemployed workers, facilitating the job placement of unemployed workers into private enterprises or self-employment, and expanding in-company training. The ETF would form the pillar of the Government's strategy for alleviating the adverse effects of the structural adjustment program, for enabling Barbadian workers to acquire the skills necessary to respond to emerging opportunities resulting from the economic restructuring, and for contributing to long-term human capital

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<sup>14</sup>While the total number of registrants increased from about 2,300 in 1989 to 6,800 in 1991, the number of placements (local and overseas) declined from roughly 1,900 to 1,300; for the local market, the number of registrants rose from about 1,300 to 6,500, while the number of placements fell from 536 to 464.

development. The Government also proposes to improve conditions for job-seekers by strengthening public employment services and streamlining registration procedures, and to improve the quality and timeliness of labor market information.

### **Bank's Role**

**2.14 Bank Assistance Strategy** Since 1984 Bank assistance to Barbados has been based on a *graduation strategy*, justified by the relatively high per capita GNP. This strategy, which was approved by the Board of Executive Directors in February 1984, provided for a seven-year phase-out period (FY85-91), with an average lending program of around US\$9.0 million annually, representing a total of US\$63.0 million.<sup>15</sup> The key elements of the Bank strategy are: (i) to assist the Government in the formulation and implementation of measures to eliminate the fiscal deficit, increase exports, and enhance Barbados' access to international capital markets; and (ii) to promote institutional development in those sectors that are critical for ensuring sustained growth of the economy. Recently, the Bank prepared a special economic report<sup>16</sup>, which proposed a comprehensive reform agenda for addressing underlying structural deficiencies. Discussions have been underway on possible Bank assistance for the Government's structural reform agenda. Since the graduation strategy was launched three projects have been approved: (i) Second Education and Training Project (US\$10.0 million), to upgrade basic education, improve technical/vocational education and training, and strengthen institutional capabilities (May 1986); (ii) Agricultural Development Project (US\$4.0 million), to promote agricultural diversification and rationalization of the sugar subsector (February 1987); and (iii) Second Road Maintenance and Rehabilitation Project (US\$21.2 million), to expand and improve the road network (June 1992). The proposed Human Resources Project, together with a possible structural adjustment loan, is expected to complete the graduation program for Barbados. The Human Resources Project would complement and support the Government's adjustment efforts by improving efficiency and raising cost recovery within the education sector, increasing the availability of trained manpower, and establishing an Employment and Training Fund for retraining workers displaced by the economic restructuring.

**2.15 Lessons Learned** The Bank has provided two education loans to the GOB, representing a total of US\$22 million equivalent. These operations have contributed to broadening educational opportunity and raising quality and relevance, but have fallen short of their objective of improving cost effectiveness. The **First Education Project** (US\$12.0 million, December 1978, Loan 1642-BAR)<sup>17</sup> provided assistance for upgrading and consolidating primary schools, enhancing instruction in secondary education and at Erdiston College, and improving in-plant training for private sector workers and supervisors. According to the Project Performance Audit Report (May 1991) while implementation was generally successful, the

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<sup>15</sup>Barbados: Graduation from the Bank, February 13, 1984.

<sup>16</sup>Country Economic Memorandum: Barbados: Requirements for Sustained Development (Report no. 9545-BAR), August 1991, World Bank.

<sup>17</sup>Loan 1642-BAR was originally for US\$9.0 million equivalent; due to a public finance and balance of payments crisis, the Government was granted a supplemental loan of US\$3.0 million and the closing date was extended by 2 years in 1983.

key issues encountered were: (i) administrative, staffing, and planning<sup>18</sup> difficulties, and (ii) shortages of counterpart funds, which were precipitated by both cost escalation in construction and technical assistance, and the economic recession of the early 1980s. These problems fueled implementation delays, which were reflected in substantial cost overruns.<sup>19</sup> As highlighted in the PCR and Audit Report the *main lessons* drawn are: (a) continuity and full-time involvement of project staff and their close linkages to decision makers is critical; (b) price contingencies for civil works must be realistically estimated, taking into account public and large private investment plans, since small island economies tend to be particularly prone to price escalation during periods of high capacity utilization in the construction industry; (c) regular inter-disciplinary supervision missions should be carried out to assess both physical and pedagogic implementation; (d) educational planning and evaluation needs to be strengthened, with scrupulous attention given to school enrollment forecasts; and (e) planning of TVET should be reinforced.

2.16 **The Second Education Project** (US\$10.0 million, May 1986, Loan 2688-BAR), financed jointly with the IDB, aims to improve the quality and cost-effectiveness of basic education, to foster improvements in the efficiency, quality, and industrial relevance of TVET, and to strengthen institutional capabilities. Implementation has been generally satisfactory, with a discernible improvement in the learning environment<sup>20</sup>. While the Second Project redressed the project staff issues mentioned above, planning, management, and coordination functions have not yet significantly improved and progress in strengthening TVET has been slow. This has been due to a combination of factors: weaknesses in managerial capabilities, an excessive emphasis on civil works and capacity expansion (particularly at the post-secondary level), and insufficient attention to human resources development and inadequate implementation of competency based curriculum delivery modes. Changes in site selection and scope of work have resulted in a significant cost overrun in the construction of a new MOE headquarters building. Moreover, as already mentioned above, the recruitment of a back log of primary school teachers during the first years of project implementation has made it difficult to attain the project's cost effectiveness objective. The *key lessons* which were integrated into the design of the proposed project are: (i) a coherent policy reform agenda with specific quantitative targets must be elaborated and monitored closely by both the Government and the Bank; (ii) linkages between technical assistance/fellowships and project goals must be strengthened, by improving supervision of consultants and follow-up of recommendations, and by requiring fellows to produce concrete outputs; and (iii) procurement procedures should be strengthened by involving beneficiary institutions in the elaboration of technical specifications.

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<sup>18</sup>Weaknesses in planning resulted in duplication of TVET courses and in a failure to anticipate the school-age population decline, which in combination with the Government's inability to freeze the recruitment of teachers, led to a drop in the student/teacher (S/T) ratio in spite of the Government's agreement to maintain the ratio above 23/1.

<sup>19</sup>The total project cost amounted to US\$22.4 million equivalent, 55 percent higher than the appraisal estimate of US\$14.5 million.

<sup>20</sup>Notable achievements in school facility upgrading includes: the amalgamation of 13 small uneconomical primary schools into 7 larger ones, (with the merger of 6 other primary schools into 3 larger ones expected to be completed by April 1993); the construction/expansion of 3 secondary schools, with an increased capacity of some 1400 places; the construction of one NTB skills training center (Sayes Court) and technician level training facilities at the Barbados Community College; and with the provision of equipment to the Samuel Jackman Prescod Polytechnic, as well as to the other new/renovated facilities.

**2.17 Rationale for Bank Involvement** The rationale for Bank support is that this project would be instrumental in the design and implementation of policy reform measures, in addition to providing an essential complement for a parallel IDB-financed project aimed at improving basic education and institutional strengthening of the MOE. Moreover, it would facilitate the consolidation of achievements of the first two projects, and support the Government's education reform initiative.

### **III. THE PROJECT**

#### **Project Origin**

3.1 The Government of Barbados made a request to the IBRD and IDB for a third project aimed at consolidating the achievements of the past decade and at addressing emerging issues. A joint IBRD/IDB mission visited Barbados in November 1990 to review the Government's project proposal. As preparation of the project evolved, it was decided that the project would be split into two operations to be implemented in parallel. The IDB-financed project was confined to general education while the IBRD loan would support technical and vocational education and training with selective support for general education and labor market improvements. The IDB Third Education and Training Project (US\$14.5 million, of which IDB funding is US\$11.6 million) was approved in October, 1992. Preparation of the Bank project began in December 1991. A PPF of US\$0.5 million was extended to the GOB in April 1992 for the execution of preparatory studies which have provided the analytic underpinnings for the proposed IBRD loan.<sup>21</sup> Appraisal of the IBRD Project was completed in February 1993.

#### **Project Objectives and Content**

3.2 The IBRD and IDB Projects will constitute the backbone of the Government's 1993-2000 education sector development plan, representing over 85 percent of the medium-term public education sector investment program.<sup>22</sup> These operations support a continuation of the Government's policy objectives of improving quality and efficiency and expanding access to 'quality' educational opportunities. The quality and efficiency improvements would enable the MOE to consolidate the gains from previous investments while the institutional reinforcement measures would leave in place the framework for improved management of the education and training system. As shown in the table below the two projects address the key sector issues in an integrated and complementary fashion.

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<sup>21</sup>The PPF-funded studies are included in Annex X.

<sup>22</sup>The other projects in the investment program are: (i) Second Education and Training Project (IBRD/IDB); (ii) Hospitality Institute (EDF); and (iii) St. Thomas Secondary School (Government).

TABLE 3.1: SECTOR ISSUES, PROJECT OBJECTIVES & POLICY MEASURES

SECTOR ISSUES	PROJECT OBJECTIVES	POLICY MEASURES
<p><b>GENERAL EDUCATION</b></p> <p><b>Qualitative Deficiencies/Disparities</b></p> <p>(i) Weaknesses in instruction and teacher training and lack of innovative instructional strategies</p>	<ul style="list-style-type: none"> <li>• Provide staff training to strengthen pedagogical and technical skills and school management.</li> </ul>	<ul style="list-style-type: none"> <li>• Restructure Erdiston College</li> </ul>
<p>(ii) Shortage of textbooks/reference materials and lack of instructional materials and technologies for individual instruction</p>	<ul style="list-style-type: none"> <li>• Supply all primary schools with textbooks and reference materials (IDB).</li> <li>• Upgrade technological/instructional resources in schools and libraries by: strengthening Audio Visual Aids Department; establishing 15 library resource centers, equipping all secondary schools with AVA materials for foreign language training; and reinforcing the National Library.</li> </ul>	<ul style="list-style-type: none"> <li>• Appoint a MOE librarian</li> <li>• Train 15 library assistants from existing pool of primary teachers</li> <li>• Discontinue National Library book mobile service</li> </ul>
<p>(iii) Deficiencies in school infrastructure</p>	<ul style="list-style-type: none"> <li>• Amalgamate, upgrade and equip 8 primary schools of substandard quality into 4 larger ones (IDB).</li> </ul>	
<p>(iv) Weaknesses in educational management and planning</p>	<ul style="list-style-type: none"> <li>• Provide assistance to reinforce MOE institutional capabilities with regard to educational planning, teacher appraisal, curriculum development, testing and measurement, management information system design and financial management (IDB).</li> </ul>	
<p>(v) Use of secondary school entrance exam which has adverse effects on curriculum instruction, quality and learning achievement; and limited certification of secondary students.</p>	<ul style="list-style-type: none"> <li>• Support the design, implementation, and evaluation of education reform program, with a particular focus on the national examinations and certification system (IBRD/IDB).</li> </ul>	<ul style="list-style-type: none"> <li>• Implement education reform</li> </ul>
<p><b>TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING</b></p> <p><b>Poor Quality</b></p> <p>(i) Weaknesses in TVET instruction</p>	<ul style="list-style-type: none"> <li>• Implement competency-based teacher training program and improve instructor appraisal system.</li> </ul>	<ul style="list-style-type: none"> <li>• Rectify the pay inequities identified for technical instructors</li> </ul>
<p>(ii) Poor access to materials and library resources</p>	<ul style="list-style-type: none"> <li>• Expand access to learning resources by: establishing 2 teacher resource centers (BCC, SJPP) and upgrading BCC Library.</li> </ul>	<ul style="list-style-type: none"> <li>• Use students as library assistants at BCC Library</li> </ul>
<p>(iii) Curriculum deficiencies</p>	<ul style="list-style-type: none"> <li>• Strengthen curricular and program design expertise, and program review/evaluation procedures.</li> </ul>	

<b>SECTOR ISSUES</b>	<b>PROJECT OBJECTIVES</b>	<b>POLICY MEASURES</b>
<b>Weaknesses in Targeted Training Programs</b>		
(i) Lack of resources for Barbados Youth Training Service initiatives, which faces excess demand	<ul style="list-style-type: none"> <li>• Strengthen training program for youths to enable an expansion in enrollments.</li> </ul>	
(ii) Inadequate accommodations for Training Administration Division, preventing an expansion in courses	<ul style="list-style-type: none"> <li>• Expand course participants by about 200 annually.</li> </ul>	
(iii) Lack of market driven programs, which operate on a cost recovery basis	<ul style="list-style-type: none"> <li>• Establish and operate on a cost recovery basis an industry service unit; and expand language training at BCC.</li> </ul>	
<b>Inadequate Institutional Capabilities</b>		
<b>COSTS AND FINANCING</b>		
(i) Poor financial planning	<ul style="list-style-type: none"> <li>• Strengthen financial management (IDB)</li> <li>• Finetune and update annually the 5-year education PEP</li> </ul>	<ul style="list-style-type: none"> <li>• Submit to the Bank on an annual basis the 5-year education PEP and budget submission for forthcoming year, as well as actual expenditures for previous year.</li> </ul>
(ii) Low internal efficiency	<ul style="list-style-type: none"> <li>• Support implementation of reform measures aimed at improving cost efficiency of technical/vocational courses in secondary education</li> </ul>	<ul style="list-style-type: none"> <li>• Raise S/T ratios to 23:1 and by 19:1 in primary and secondary education, respectively by January 1996.</li> </ul>
(iii) Low level of cost recovery	<ul style="list-style-type: none"> <li>• Assist in design and implementation of a cost recovery program</li> </ul>	<ul style="list-style-type: none"> <li>• Raise cost recovery to 7% of the education recurrent budget.</li> </ul>
<b>LABOR MARKET</b>		
(i) Inadequacies in public employment services	<ul style="list-style-type: none"> <li>• Design and implement a computerized employment information and placement system; and strengthen educational occupational counseling.</li> </ul>	<ul style="list-style-type: none"> <li>• Open up two branch offices; redeploy staff; stream line procedures; and adopt pro-active policies to generate private sector business.</li> </ul>
(ii) Lack of up-to date labor market information	<ul style="list-style-type: none"> <li>• Increase capacity of MRSU to analyze and disseminate labor market information.</li> </ul>	

3.3 The principal objective of the proposed IBRD project would be to strengthen the country's human capital base by expanding the availability of trained manpower, which would enhance productivity and facilitate economic restructuring. The specific objectives would be: (i) to strengthen the quality and efficiency of basic education, with a view to raising student achievement; (ii) to improve the effectiveness, efficiency, and responsiveness of public TVET programs; and (iii) to reinforce employment services and labor market information. The project would include four components: General Education Support (US\$4.9 million), TVET Development (US\$9.3 million), Labor Market Support (US\$0.5), and Project Administration (US\$0.9 million). The General Education Support Component would be implemented by the MOE, with the exception of the National Library, which is now under the jurisdiction of the Ministry of Housing, Lands, Community Development and Culture. The TVET Development Component would be executed by both the Ministries of Education and Labour, with some programs carried out by other ministries (e.g., Ministry of Housing, Lands, Community Development and Culture, Barbados Youth Training Service; and Civil Service Ministry, Training Administration Division). The Labor Market Support and Project Administration components would be carried out by the Ministries of Labour and Education, respectively. *For project activities related to the upgrading of Erdiston College, including the acquisition of furniture and equipment, no funds will be disbursed unless the Bank has received final design plans, cost estimates and technical specifications, all satisfactory to the Bank.*

3.4 The **General Education Support Component (US\$4.9 million equivalent**, including contingencies) aims to strengthen the quality and efficiency of primary and secondary education through the provision of key inputs into the learning process and support of MOE policy reform measures. The parallel-funded, complementary IDB Third Education and Training Project strives to achieve the same objective, with a particular focus on primary education and institutional strengthening of the MOE. The specific objectives/activities supported under both the IBRD and IDB projects are as follows:

- (a) Provide **staff training**<sup>23</sup> (IBRD) to improve the quality of teaching, encourage use of information technology, and strengthen school management. The project would support the expansion of innovative and cost-effective instructional strategies such as multi-grade teaching (which is being increasingly used in small schools in remote areas even though teachers have no formal training in this area) and school-based training, which relies on head teachers and principals.<sup>24</sup> The overall target is to reach about 800 primary and secondary school teachers (representing 30 percent of the total) and 100 MOE education officers, school counsellors, and principals. Specific activities to be carried out include:

- (i) Strengthen pedagogical techniques through the provision of courses (e.g., special education, diagnostic assessment, remediation); and the development and delivery of special education programs at Erdiston College;

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<sup>23</sup>This sub-component has been designed partly based on the results of a PPF-funded teacher training needs assessment survey; Newton, E.H., In-Service Teacher Training Needs at the Primary and Secondary Levels in the Barbados Education System, UWI Faculty of Education, December 1992.

<sup>24</sup>Lockheed, M. and Verspoor, A., Policy Options in Primary Education, World Bank, 1990; and Raudenbush, S. et al., On-the-job Improvements in Teacher Competency: Policy Options and their effects on Teaching and Learning in Thailand, College of Education, Michigan State University, 1991.

- (ii) Upgrade/provide training in early childhood education, to facilitate an expansion of pre-primary enrollment;
  - (iii) Deliver courses in selective subjects (e.g., remedial reading, information technology, library resources, and environmental education); and sponsor related study tours for tutors; and
  - (iv) Introduce a course in instructional leadership at Erdiston College, which addresses multi-grade teaching, school-based training, school management, supervision, and academic/guidance counselling; and
  - (v) Upgrade Erdiston College, including the acquisition of furniture and equipment.
- (b) Supply all primary schools with **textbooks/reference materials** (IDB), which incorporate recently revised curriculum.
- (c) Upgrade **learning resources**<sup>25</sup> (IBRD) in schools and libraries, with a view to improving learning achievement and increasing opportunities for self development. The project would assist by strengthening the capabilities of the Audio Visual Aids (AVA) Department to serve as the 'nerve center' for dissemination of technologies and instructional resources to all primary and secondary schools, to provide staff training, and to carry out its school-based equipment maintenance program; and by supporting the establishment of 15 satellite library resource centers expected to serve the remaining network of 75 primary schools. Annex VII presents the strategies and actions to be pursued in a schematic form. *The Government has agreed to appoint a librarian, who would provide professional leadership, support and guidance to the MOE program; to place a library assistant at each of the 15 library resource centers in time for initiating activities, by drawing from the existing pool of primary teachers; and to phase out the National Library mobile book service by project completion.* The following specific activities have been identified for support:
- (i) Strengthen the AVA Department in order to facilitate access of all primary and secondary schools to the central collection of AVA resources, and to improve the efficiency of print materials production; to this end, funding will be provided for hardware (i.e., audio-visual equipment), software (i.e., books, reference and instructional materials), and related training, as well as furniture and typesetting/printing equipment for the central department;
  - (ii) Establish and equip library resource centers at 15 primary schools (10 of which were constructed under the Second Education and Training Project) by providing appropriate hardware (e.g., computers) and software and integrating the bookstock from the National

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<sup>25</sup>This sub-component has been largely designed to address deficiencies identified in a material needs assessment survey of school personnel which was carried out by the MOE Audio Visual Aids Department. The evaluation indicated that there are shortages of enrichment and curriculum-centered materials, print and non-print materials, and special education materials.

Library mobile service into the new centers; as well as supplying a basic package of audio visual equipment to all primary schools;

(iii) Equip all 22 secondary schools with audio-visual equipment and interactive instructional materials for teaching foreign languages (e.g., French and Spanish), and provide related training; and

(iv) Reinforce the capacity of the National Library to provide non-formal educational opportunities to the general public through the provision of computers, books/reference materials, furniture and overseas fellowships.

(d) Improve **school infrastructure** (IDB) through the amalgamation of 8 small, uneconomic primary schools into 4 larger facilities; and furnish with books, instructional aids and computers; facilities have been selected based on their substandard status, in order to rectify inequities in educational opportunities.

(e) Strengthen **MOE institutional capabilities** (IDB) in the areas of education planning, teacher appraisal, curriculum development, testing and measurement, management information system development and financial management; to these ends, funding is provided for technical assistance, staff training, and computer equipment.

(f) Reinforce MOE policy development capabilities (IBRD/IDB) by:

(i) Supporting the design, implementation, and evaluation of the Government's education reform program. Particular attention would be devoted to the reform of the national examinations/certification system and of technical/vocational course offerings in secondary education. Government plans to establish a testing and measurement unit at the MOE, to support the design and implementation of alternative exams and the introduction of a new secondary school certificate. The National Advisory Commission on Education would be reinforced to accelerate the elaboration of policy proposals and to enable it to organize national seminars/workshops aimed at generating broad based support for the MOE education reform program. Assistance would also be provided for monitoring and evaluating the impact of various initiatives supported under the project (e.g., multi-grade and school-based teaching; TVET instruction; instructor feedback and evaluation; program review/evaluation procedures). The project would provide funding for technical assistance, studies, and workshops/seminars; and

(ii) Assisting in the design and implementation of a comprehensive cost recovery program, and a rolling 5-year education public expenditure program (PEP). The cost recovery program would standardize fees across tertiary institutions, include clear exemption guidelines, and provide for alternative financing mechanisms; this would be accomplished through the provision of technical assistance and workshops/seminars to generate a broad based national consensus. *The Government's target is to raise cost recovery to about 7 percent of the education recurrent budget by project completion. The Government has agreed to submit for IBRD approval on an annual basis the proposed 5-year PEP (no later than end January), as well as the actual expenditures for the preceding year (no later than end May).*

3.5 Recognizing that technical/vocational training and skills development will have a major role in the restructuring of the economy, the **TVET Development Component (US\$9.3 million equivalent, including contingencies)** aims to increase the effectiveness, efficiency<sup>26</sup>, and responsiveness of TVET programs, consolidating gains from the capacity expansion of the last decade. The effectiveness of TVET programs would be raised through the provision of key inputs to the learning process (i.e., instructor training, learning materials, curriculum/program improvements and institutional reinforcement). Internal efficiency would be improved, inter alia, through: increased sharing of facilities and resources; expanded use of program review/evaluation procedures and articulation agreements, which will weed out programs no longer in demand; and program mergers (i.e., in-service program of the Faculty of Education of the UWI with Erdiston College; Erdiston's industrial arts program with BCC). External efficiency would also be improved, to the extent that user fees are being introduced in post-secondary education, and that contract training would be used by the Employment and Training Fund and piloted at an industry service unit at the BCC. Responsiveness would be improved through the introduction of flexible curricula, enhanced capabilities to evaluate performance (of both staff and institutions) and to design new programs, provision of incentives to post-secondary institutions to enter into training contracts with industry, and increased accountability of institutions. Support would be provided to:

- (a) Improve the quality of **TVET instruction** at the secondary and post-secondary levels through the design, implementation, and evaluation of a new multi-certification level competency-based teacher training program and development of a cadre of teacher trainers at the BCC<sup>27</sup>; and improvement of the instructor appraisal and feedback system at the BCC and SJPP<sup>28</sup>; to this end, the project would fund instructional aids and supplies, local and foreign consultancies, study tours, overseas fellowships, and workshops.
- (b) Expand access to **learning resources** (e.g., instructional materials and library resources) for staff and students by:
  - (i) Establishing and equipping two teacher resource centers at the post-secondary TVET institutions. Increased access to instructional materials should improve curriculum content and course delivery, as well as generate economies of scale through the concentration of resources at these centers. The project would fund the establishment of a teacher resource center at the BCC, which would also be used by secondary school students; and a self-help audio-visual resource center for the SJPP. The teacher resource centers would be established in existing facilities; and

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<sup>26</sup>**Effectiveness** refers to the degree to which outcomes of the TVET programs are attained (i.e., learning achievements, match between training and market needs) and **efficiency** is defined as the extent to which costs are minimized (a more efficient TVET system will obtain more output for a given set of inputs).

<sup>27</sup>The Government will be granting the BCC authority to award the Diploma and B.Ed. levels of the multi-certification TVET teacher training program; a detailed description of the main elements of the teacher training program is included in Annex VIII.

<sup>28</sup>The recommendations stemming from a 1989 report on teacher assessment in primary and secondary education would be used as a starting point for the development of a comprehensive system of performance review and feedback for TVET instructors; see Appraisal Committee, Report of the Committee on the Appraisal of Teaching, June 30, 1989.

(ii) Upgrading the BCC Library. To this end, the project would provide funding for rehabilitation of the facility, computerization, establishment of on-line access to other libraries, equipment (i.e., audio-visual), books, instructional materials, furniture, and staff training. *The BCC has agreed to use students as library assistants, in order to minimize the recurrent cost burden.*

(c) **Strengthen curriculum and program development capabilities by:**

(i) Developing curriculum and evaluation design and materials development expertise at the BCC and SJPP for two faculty members who would subsequently act as facilitators; this would be accomplished through support of one foreign fellowship for each institution, short-term foreign consultancy and a series of curriculum and instructional design workshops, which would emphasize methods of integrating academic outcomes with vocational skill competencies; and

(ii) Strengthening program review/evaluation procedures, including establishment and systematic use of program advisory committees at the SJPP and BCC; to this end, the project would fund foreign consultancies and workshops.

(d) **Revitalize and strengthen selective TVET programs by:**

(i) Furnishing equipment, furniture, materials, and technical assistance to the Barbados Youth Training Service, which would provide arts & crafts training programs;

(ii) Expanding the number of course participants in the Training Administration Division of the Civil Service Ministry by about 200 annually, which would represent a 50 percent enrollment increase, and strengthening operational efficiencies through centralization of training courses, two additional on-site classrooms, instructional equipment and resource materials, overseas fellowships for instructors, consultancies in impact evaluation and in teaching specialized topics;

(iii) Establishing a pilot industry service unit<sup>29</sup> at the BCC, which would design and deliver flexible short-term technical training programs to meet immediate needs of industry; to this end, the project would fund local consultancies, furniture and equipment; and

(iv) Upgrading and equipping the BCC Language Center with computers, specialized audio-visual equipment, mini labs, and instructional materials; providing local training for language tutors and professional staff; and supplying technical assistance for program promotion and evaluation.

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<sup>29</sup>A pre-feasibility study on the establishment of an industry service unit at the BCC has recently been completed by BIMAP. The study suggested that the key target groups for contract training should be companies with no in-house training capabilities and those launching new ventures; and that costs should be set in a manner to ensure full cost recovery.

(e) Reinforce TVET institutional capabilities by:

(i) Supporting the operations of the new TVET Policy Coordinating Council/ETF<sup>30</sup> through the provision of short and long-term technical assistance, seminars/workshops, equipment, furniture, and study attachments. The Council would be responsible for developing a National Training Plan, setting performance targets, elaborating an articulation manual (which documents inter-institutional agreements and procedures on transfer of credits between TVET programs), and carrying out a promotional campaign to improve the public's image of technical/vocational work and to attract high quality students. The Council would manage the ETF, which aims to expand in-company training and support priority training programs for vulnerable groups;

(ii) Carrying out customized skill building workshops for TVET managers and administrators; and developing a specialized course in education management and administration for TVET managers and administrators at the BCC; and

(iii) Conducting research to monitor and evaluate the impact of the TVET programs. Tracer studies would document placement rates, duration of job search, and employment history, with a view to clarify the labor supply functions for particular occupation/skills and the adequacy of training activities. A management development study would determine the needs of technical/vocational managers.

3.6 The key objective of the **Labor Market Support Component (US\$0.5 million equivalent, including contingencies)** is to strengthen employment services and labor market information through computerization of the National Employment Bureau (NEB), improved counselling services, and production and timely dissemination of labor market information by the Manpower Research and Statistics Unit (MRSU). The improvements in public employment services would contribute to faster labor reabsorption and reduced unemployment benefits.<sup>31</sup> *The Government has decided to restructure the NEB through: establishment of two additional branches, redeployment of staff, streamlined registration procedures, which would involve establishing a 'one stop shop' for job seekers and unemployment benefit claimants, and adoption of pro-active policies to generate private sector business.* The project would provide funding to:

- (a) Strengthen **employment services** by computerizing the employment information and placement system and by expanding educational and occupational counselling for youths and adults through the provision of technical assistance, computer equipment and software, and staff training.

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<sup>30</sup>Annex IX provides a description of the Council's proposed mandate, structure and resources.

<sup>31</sup>Empirical evidence has illustrated that improved public employment services represent a cost effective manner to expedite the redeployment of labor; see "Developing Effective Employment Services", World Bank, June 2, 1992.

- (b) Increase the capacity of the MRSU to analyze **labor market information**, to conduct labor market research, and disseminate findings to policy makers and to the TVET Policy Coordinating Council in a timely manner; to this end, the project would provide short-term overseas fellowships in manpower planning, short-term technical assistance, and computer equipment/materials.

3.7 The key objective of the **Project Administration Component** (US\$0.9 million equivalent, including contingencies) is to strengthen the project's implementation framework by supporting the Education Project Implementation Unit (EPIU). The EPIU, which is expected to have the overall responsibility for project implementation, will be reinforced through the redeployment of MOE staff, recruitment of short-term, local consultants, and purchase of equipment and provision of training (e.g., word processing, computer sciences). *The Government has agreed to reassign a Project Educator to the EPIU and to re-activate the post of Training Officer, which would correspond with the launching of the project's training activities component.*

#### IV. PROJECT COSTS, FINANCING AND IMPLEMENTATION

##### Project Costs

4.1 The total cost of the project (net of taxes and duties) is estimated at BDS\$31.2 million or **US\$15.6 million** equivalent, of which the PPF represents US\$0.5 million. The allocation, by ministry, is as follows: Education: 62 percent; Labour, Consumer Affairs, and the Environment: 25 percent; Housing, Lands, Community Development and Culture: 8 percent; and Civil Service: 5 percent. The foreign exchange component is estimated at US\$6.9 million, representing 44 percent of the total project cost. Tables 4.1 and 4.2 summarize the estimated costs by project component and by category of expenditure, respectively. A detailed breakdown of project costs is presented in Annex I.

4.2 **Basis of Cost Estimates**<sup>32</sup> Costs for civil works, equipment, furniture, and materials are based on revised estimates provided by the Government. Training costs are estimated based on comparable activities funded under the on-going education project.

4.3 **Customs Duties and Taxes** All imported and locally purchased materials and goods would be exempted from customs duties and taxes.

4.4 **Contingencies Allowances** Total contingencies are estimated at US\$2.2 million equivalent, which represents 16 percent of the base cost. Physical contingencies (US\$0.6 million equivalent) are estimated at 5 percent for all categories of expenditures except recurrent costs. Price contingencies (US\$1.6 million equivalent) represent 12 percent of the base cost.<sup>33</sup>

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<sup>32</sup>Base costs are expressed in Barbados FY 1992/93 prices.

<sup>33</sup>The following assumptions were made with regard to annual price increases during the life of the project: foreign: 3.9 percent; and local, by year: 4, 4.7, 5.5, 3.5 and 3.5 percent.

Table 4.1: SUMMARY OF PROJECT COSTS BY COMPONENT

Project Component/ Subcomponent	BD\$ Million			US\$ Million			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
<b>A. General Education Support</b>								
1. Staff Training	1.7	1.2	2.9	0.9	0.6	1.4	41	11
2. Learning Resources	1.2	3.3	4.5	0.6	1.6	2.2	73	16
3. Policy Development	0.6	0.0	0.6	0.3	0.0	0.3	0	2
Sub-Total	3.5	4.5	8.0	1.8	2.2	4.0	56	30
<b>B. TVET Development</b>								
1. TVET Instruction	0.7	0.8	1.5	0.3	0.4	0.8	55	6
2. Learning Resources	1.3	2.3	3.6	0.6	1.2	1.8	64	13
3. Curriculum & Progr. Devel.	0.3	0.2	0.5	0.2	0.1	0.3	34	2
4. Selective TVET Programs	1.9	1.9	3.8	0.9	1.0	1.9	51	14
5. Institutional Development	4.9	1.0	5.9	2.5	0.5	3.0	17	22
Sub-Total	9.1	6.2	15.3	4.5	3.1	7.7	41	57
<b>C. Labor Market Support</b>								
1. Employment Services	0.1	0.4	0.5	0.0	0.2	0.2	85	2
2. Labor Market Information	0.1	0.2	0.3	0.1	0.1	0.2	66	1
Sub-Total	0.2	0.6	0.8	0.1	0.3	0.4	77	3
<b>D. Project Prep./Administr.</b>	1.5	0.2	1.7	0.8	0.1	0.9	12	6
<b>E. Proj. Preparation Facility</b>	0.5	0.5	1.0	0.2	0.3	0.5	53	4
<b>Total BASELINE COSTS</b>	14.8	12.1	26.8	7.4	6.0	13.4	45	100
Physical Contingencies	0.6	0.6	1.1	0.3	0.3	0.6	50	4
Price Contingencies	2.1	1.1	3.2	1.0	0.6	1.6	35	12
<b>TOTAL PROJECT COSTS</b>	<b>17.4</b>	<b>13.8</b>	<b>31.2</b>	<b>8.7</b>	<b>6.9</b>	<b>15.6</b>	<b>44</b>	<b>116</b>

Note: Totals may not add due to rounding.  
Source: Annex I

Table 4.2: SUMMARY OF PROJECT COSTS BY CATEGORY OF EXPENDITURE

Category of Expenditure	BD\$ Million			US\$ Million			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
<b>I. Investment Costs</b>								
A. Civil Works	1.5	1.2	2.7	0.7	0.6	1.3	45	10
B. Equipment	0.2	4.6	4.9	0.1	2.3	2.4	95	18
C. Furniture	0.4	0.6	1.0	0.2	0.3	0.5	60	4
D. Books & Reference Materials	0.1	1.0	1.0	0.0	0.5	0.5	95	4
E. Training Materials	0.0	0.6	0.6	0.0	0.3	0.3	95	2
F. Professional Fees	0.4	0.0	0.4	0.2	0.0	0.2	0	1
G. Technical Assistance								
1. Foreign Consultancies	0.6	1.7	2.2	0.3	0.8	1.1	75	8
2. Local Consultancies	6.3	0.0	6.3	3.2	0.0	3.2	0	24
Subtotal	<u>6.9</u>	<u>1.7</u>	<u>8.6</u>	<u>3.4</u>	<u>0.8</u>	<u>4.3</u>	20	32
H. Training								
1. Local Training	0.9	0.0	0.9	0.5	0.0	0.5	0	4
2. Overseas Training	0.0	0.6	0.7	0.0	0.3	0.3	95	3
3. Study Tours	0.1	0.2	0.3	0.0	0.1	0.1	80	1
Subtotal	<u>1.0</u>	<u>0.9</u>	<u>1.9</u>	<u>0.5</u>	<u>0.4</u>	<u>0.9</u>	46	7
I. Project Preparation Facility	<u>0.5</u>	<u>0.5</u>	<u>1.0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.5</u>	53	4
<b>Total Investment Costs</b>	<u>10.9</u>	<u>11.1</u>	<u>22.0</u>	<u>5.5</u>	<u>5.5</u>	<u>11.0</u>	50	82
<b>II. Recurrent Costs</b>								
A. Operation & Maintenance	1.3	1.0	2.3	0.6	0.5	1.1	43	8
B. Staff Salaries	2.0	0.0	2.0	1.0	0.0	1.0	0	8
C. Project Preparation	0.5	0.0	0.5	0.3	0.0	0.3	0	2
<b>Total Recurrent Costs</b>	<u>3.9</u>	<u>1.0</u>	<u>4.8</u>	<u>1.9</u>	<u>0.5</u>	<u>2.4</u>	20	18
<b>Total Baseline Costs</b>	<u>14.8</u>	<u>12.1</u>	<u>26.8</u>	<u>7.4</u>	<u>6.0</u>	<u>13.4</u>	45	100
<b>Contingencies</b>								
Physical	0.6	0.6	1.1	0.3	0.3	0.6	50	4
Price	2.1	1.1	3.2	1.0	0.6	1.6	35	12
<b>TOTAL PROJECT COSTS</b>	<u>17.4</u>	<u>13.8</u>	<u>31.2</u>	<u>8.7</u>	<u>6.9</u>	<u>15.6</u>	<u>44</u>	<u>116</u>

Note: Totals may not add due to rounding.  
Source: Annex I

**Table 4.3: FINANCING PLAN  
(US\$ Million)**

Category of Expenditure	GOB		IBRD		Total Amount
	Amount	%	Amount	%	
Civil works	1.3	80	0.3	20	1.6
Equipment & Training Materials	0.5	15	2.7	85	3.2
Furniture	0.1	15	0.5	85	0.6
Books & Reference Materials	0.1	15	0.5	85	0.6
Professional Fees	0.1	65	0.1	35	0.2
Technical Assistance					
Local	2.5	65	1.3	35	3.8
Foreign	0.0	0	1.3	100	1.3
Training					
Local	0.6	100	0.0	0	0.6
Fellowships & Study Tours	0.0	0	0.5	100	0.5
O & M and Salaries	2.7	100	0.0	0	2.7
PPF	0.0	0	0.5	100	0.5
<b>TOTAL</b>	<b><u>7.8</u></b>	<b><u>50</u></b>	<b><u>7.8</u></b>	<b><u>50</u></b>	<b><u>15.6</u></b>

Note: Totals may not add due to rounding

Table 4.4: **PROCUREMENT METHODS**  
(US\$ Million)

Category of Expenditure	ICB	LCB	Other/ <u>a</u>	N.A.	Total Cost/ <u>b</u>
Civil Works	-	1.6 (0.3)	- -	- -	1.6 (0.3)
Equipment and Training Materials	2.2 (2.2)	0.9 (0.4)	0.1 (0.1)	- -	3.2 (2.7)
Furniture	-	0.6 (0.5)	-	-	0.6 (0.5)
Books & Reference Materials	-	-	0.6 (0.5)	-	0.6 (0.5)
Professional Fees	-	-	0.2 (0.1)	-	0.2 (0.1)
Technical Assistance	-	-	5.1 (2.6)	-	5.1/ <u>c</u> (2.6)
Training	-	-	1.1 (0.5)	-	1.1/ <u>d</u> (0.5)
Incremental O & M and Staff Salaries	-	-	-	2.7 (0.0)	2.7 (0.0)
PPF	-	-	0.5 (0.5)	-	0.5 (0.5)
<b>Total</b>	<b><u>2.2</u></b> <b>(2.2)</b>	<b><u>3.1</u></b> <b>(1.2)</b>	<b><u>7.6</u></b> <b>(4.4)</b>	<b><u>2.7</u></b> <b>(0.0)</b>	<b><u>15.6</u></b> <b>(7.8)</b>

Note: Figures in parentheses are the respective amounts financed by the Bank.  
Totals may not add due to rounding.

N.A. - Not Applicable

/a Other procurement procedures include: international and local shopping (including a US\$20,000 civil works contract); negotiated purchases for books and journals (US\$0.2 million in aggregate); and consulting services.

/b Totals represent total estimated costs per category including physical and price contingencies.

/c Foreign consultancies: US\$1.3 million; local consultancies: US\$3.8 million.

/d Local training: US\$0.6 million; overseas training: US\$0.5 million.

**4.5 Foreign Exchange Component** The foreign exchange component of US\$6.9 million is calculated on the basis of the following foreign exchange proportions: (a) civil works: 45 percent; (b) equipment, books and training materials: 95 percent; (c) furniture: 60 percent; (d) foreign consultants: 75 percent; (e) overseas fellowships: 95 percent; and (g) overseas study tours: 80 percent.

**4.6 Incremental Recurrent Costs** Total incremental recurrent costs generated over the project's life are estimated at US\$2.7 million (including contingencies), which would add an average of US\$0.5 million annually in recurrent expenditures, increasing from US\$0.4 million in 1993/94 to US\$0.8 million in 1997/98. These costs include: additional staff, supplies and materials, operation and maintenance costs for renovated facilities.<sup>34</sup> A concerted effort has been made to minimize the incremental recurrent cost burden of the proposed project by: (i) supporting reform measures (e.g., increases in student/teacher ratios and in cost recovery); (ii) using school-based training schemes which rely on training a core group of resource people; (iii) retraining primary school teachers as library assistants to staff the school-based libraries; (iv) recruiting students to assist in the operations of the BCC Library; (v) establishing an industry services unit at the BCC, which would promote contract training on a cost recovery basis; and (vi) strengthening the capacity of the BCC Language Center to expand its income-generating activities. At project completion in 2000, the annual incremental recurrent costs generated by the operation are estimated to be about US\$1.3 million equivalent, which would represent about 0.2 percent of the projected Government recurrent budget, and less than 10 percent of the expected gains from the cost efficiency and cost recovery measures supported under the project.

### **Project Financing**

**4.7** The proposed Bank loan would be **US\$7.8 million** equivalent, including a PPF of US\$0.5 million, and would cover 100 percent of foreign costs (net of taxes) and about US\$0.9 million of local costs. The balance of US\$7.8 million would be funded by the Government. The financing plan is presented in table 4.3.

### **Project Procurement, Disbursements, Accounts and Auditing**

**4.8 Procurement** Barbados' public procurement procedures are generally consistent with Bank procurement guidelines and policies. The procurement record under the previous education projects has been positive. The Government confirmed use of standard bidding documents, acceptable to the Bank, during negotiations. Procurement procedures to be followed for each category of expenditure are described below and presented in Table 4.4.

- (a) **Civil Works** (US\$1.6 million equivalent, including contingencies) consists of the minor rehabilitation of six facilities.<sup>35</sup> Civil works contracts above US\$0.9 million would be awarded on the basis of international competitive bidding (ICB) according to Bank

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<sup>34</sup>Incremental salaries were calculated based on the standard government salary structure while the operating and maintenance costs for equipment and civil works were assumed to be 10 and 3 percent, respectively.

<sup>35</sup>Annex V contains a description of the civil works activities to be funded under each component.

guidelines. Contracts between US\$50,000 and US\$0.9 million would be awarded on the basis of local competitive bidding (LCB) procedures. Interested foreign bidders would be allowed to bid. Minor civil works packages valued at less than US\$50,000 equivalent, and aggregated up to US\$50,000, would be awarded on the basis of comparison of price quotations solicited from at least three eligible contractors.

- (b) **Equipment, Furniture, Books and Materials** Equipment and furniture (US\$3.8 million equivalent, including contingencies) contracts would be grouped, to the extent possible, to form attractive packages which would be awarded on the basis of international competitive bidding (ICB) procedures when they total US\$50,000 or more. In bid comparisons, local manufacturers from Barbados and CARICOM countries would be extended a margin of preference in accordance with Bank guidelines. Contracts valued between US\$20,000 and US\$50,000 equivalent would be awarded on the basis of LCB procedures, in an aggregated amount not to exceed US\$1,500,000 equivalent. Miscellaneous equipment which cannot be grouped into packages of US\$20,000 equivalent or more and aggregated up to US\$100,000 equivalent, would be procured through the Government's Central Purchasing Department on the basis of competitive price quotations from at least three suppliers eligible under the Bank guidelines (international or local shopping). Books and reference materials (US\$0.6 million equivalent, including contingencies) would be purchased through international or local shopping, whenever possible, or directly from the copyright owning publisher or authorized distributor up to an aggregate amount of US\$0.2 million.
- (c) **Consultant and Professional Services** (US\$5.1 million equivalent, including contingencies) All consulting and professional service contracts would be awarded in accordance with the World Bank Guidelines for recruitment of consultants.
- (d) **Training** (US\$1.1 million equivalent, including contingencies) This category includes local training (US\$0.6 million equivalent) and overseas fellowships and study tours (US\$0.5 million equivalent). In-country training would be arranged with relevant ministries. Placement of candidates in foreign institutions would be made on the basis of quality, costs, and appropriateness of the programs.

4.9 The limits on the type of procurement applied and prior review thresholds are summarized in Annex VI. Prior Bank review of procurement documentation would be required for: (a) civil works contracts exceeding US\$200,000 equivalent (representing about 90 percent of the total value of the contracts); (b) equipment and other goods exceeding US\$50,000 equivalent and all direct purchases of books and reference materials (representing close to 90 percent of the estimated value of the contracts); and (c) consultant contracts. Other contracts would be subject to selective post-award review.

4.10 **Disbursements** The proposed Bank loan of US\$7.8 million would be disbursed over a period of seven years (1993-2000), with disbursements completed by June 30, 2000. The disbursement schedule for the loan is presented in Annex III. The project profile is broadly similar to the standard profile for Barbados. The loan would disburse the following percentages, by category of expenditure: (a) 20 percent of civil works; (b) 100 percent of foreign expenditures of directly imported goods and 85 percent of locally produced goods such as equipment and training materials, furniture, books and reference materials; (c) 100 percent of foreign consulting services; (d) 35 percent of local consulting services and

professional fees (including architectural and engineering fees); and (e) 100 percent of overseas training and study tours.

4.11 Disbursements against contracts of US\$20,000 equivalent or less would be made on the basis of Statements of Expenditures (SOEs) certified by the MOE. Documentation would be maintained by the EPIU and be readily available for periodic review by Bank supervision missions. Other disbursements would be made against fully documented withdrawal applications, which would be aggregated, to the extent possible, in amounts of US\$20,000 or more prior to submission to the Bank.

4.12 **Special Account** In order to facilitate project implementation and reduce the interval during which the Government would finance with its resources the Bank's share of goods and services, a Special Account would be established at the Central Bank of Barbados. At project effectiveness, the Bank will, at the Government's request, make an initial deposit of US\$400,000 from the loan account, representing four months of expenditures.

4.13 **Accounting and Auditing** The auditing and accounting procedures used in the first two Bank education projects are satisfactory and the reports were well prepared. The EPIU would continue maintaining its accounts in accordance with acceptable accounting procedures. Other ministries to be involved in the execution of the project (i.e., Labour, Community Development, Civil Service) would delegate responsibility for accounting and auditing functions to the EPIU. Within six months following the end of each fiscal year the Government would submit an audit report to the Bank.

#### **Project Management and Implementation**

4.14 Given the number of ministries involved and the complexity of the proposed project, and in light of the long standing experience and good track record of the EPIU, this unit would continue handling procurement, accounting, and auditing for all project activities. Agreements would be elaborated, governing inter-ministerial responsibilities, with each ministry delegating authority to the EPIU of the MOE to handle these functions on its behalf. At the same time, each ministry would make provisions in its own budgetary allocation for expenditures related to the implementation of its respective component. In view of the additional work load, the EPIU would be strengthened through staff training and local consultancies and provision of computers. The EPIU would have the overall responsibility for preparing annual work programs (not later than January 31 of each year) including project activities, an implementation schedule and a proposed budget.

4.15 With respect to the implementation of the policy and institutional aspects of the project, the inter-ministerial committee, established during the appraisal mission, would continue overseeing and monitoring project implementation. This committee is comprised of a chairman (Senior Education Officer, MOE Planning Unit), EPIU education officer and project accountant, and technical staff from the Ministries of Finance, Labour, Community Development, and Civil Service. Committee representatives would be responsible for: (i) contributing to the preparation of annual work programs and budgets, (ii) coordinating the elaboration of reform measures, to be introduced in their respective ministries, ensuring the collaboration of other technical staff and the endorsement of the Permanent Secretary and/or Minister involved, (iii) participating in annual evaluations, with a particular focus on assessing progress in light of the monitoring and evaluation indicators agreed upon, and contributing to the elaboration of annual work programs and bi-annual reports, and (iv) overseeing consultancies, training, and fellowships to be funded under their respective ministry.

## **Monitoring, Review and Evaluation**

4.16 The project's monitoring and evaluation indicators are presented in Annex IV. A baseline survey would be carried out to assemble information on the monitoring and evaluation indicators. These indicators would assist in evaluating implementation progress, making modifications, and determining the project's impact. Periodic 'mini' evaluations would assess the impact on educational quality of various project interventions which can not be readily quantified (e.g., staff training, instructor feedback/evaluation system, curricula development). Tracer studies, to be funded under the project, would provide useful data on graduate placement rates. The project's impact would be measured in terms of the improvement in examination scores, placement rates for graduates of TVET programs and for NEB job registrants. The Government would submit bi-annual progress reports to the Bank not later than July 31 and December 31 of each year, and carry out joint annual evaluations with the Bank in the first quarter of each year, identifying major problems and proposing remedial actions. A mid-term evaluation would be carried out in the first quarter of 1997, to assess progress towards:

- (i) reforming the national examinations/certification system and introducing continuous diagnostic assessment tests;
- (ii) elaborating/implementing the cost recovery program;
- (iii) raising S/T ratios in primary and secondary education;
- (iv) rationalizing technical/vocational courses in secondary education;
- (v) restructuring Erdiston College;
- (vi) implementing the recommendations of the salary review study of technical instructors;
- (vii) improving the industry advisory committee system; and
- (viii) launching the operations of the TVET Council, with a particular focus on the elaboration of a national training plan, performance standards, articulation manual, initiation of ETF-funded training activities, and expansion of private sector participation.

Depending on the outcome of the mid-term evaluation, an agreement would be reached with the Government on necessary reallocation of credit proceeds, as deemed necessary.

## **Environmental Impact**

4.17 The project would have a positive environmental impact to the degree that environmental awareness themes are integrated in the teacher training program, and TVET institutions produce trained technicians (i.e., electricians, equipment maintenance specialists) who would represent a source of manpower for industry and environmental projects. No adverse environmental effects are expected from the civil works activities to be funded under the project.

## **V. BENEFITS AND RISKS**

### **Benefits**

5.1 The principal benefits of the project are the quality, efficiency and equity gains. The reform of the national examinations and certification system should result in broadening educational opportunities, to the extent that the BSSEE is phased out as a selection mechanism for allocating secondary school places, and entrance to secondary school is allowed beyond age 11, taking into account that children develop at different rates. Reform of the examinations system should also lead to a reduced need for remediation at the secondary level, and to improved learning achievement rates. The design and introduction of an alternative secondary school certificate would allow the majority of young people to enter the labor market with a certificate reflecting a recognized level of achievement. Institutional reinforcement would leave in place the framework for improved management of the education and training system, while the design/introduction of cost and financing strategies would allow the Ministry of Education to cope with the challenge of improving the quality of education in light of growing fiscal pressures. The establishment of a Policy Coordinating Council is expected to enhance policy, planning, and coordinating capabilities in the TVET sub-sector. The strengthening and rationalization of post-secondary institutions will place them in a better capacity to address emerging manpower needs while the creation of an Employment and Training Fund would allow the Government to address the adverse effects of its structural adjustment program, by enabling Barbadian workers to acquire new skills and/or establish themselves in self-employment and by encouraging a greater private sector role in the provision and financing of training. The provision of strengthened employment services and counselling is expected to improve the match between prospective employees and job vacancies, accelerating labor absorption, particularly of individuals at the lower ends of the labor force. Finally, the production and dissemination of improved labor market information should enhance the planning and delivery of TVET services.

### **Risks**

5.2 The project faces three risks. The first relates to the uncertainty over the medium-term macroeconomic environment, which may adversely affect the availability of counterpart funding and the returns to investments in the TVET and labor market components. This would be partly addressed by phasing the project over a 7-year period (with relatively low disbursements during the first years when the overall financial situation will be most precarious), and by seeking assurances from Government on the availability and timeliness of counterpart funds and monitoring the situation closely through annual reviews of the education Public Expenditure Program. The Bank's country dialogue will continue to emphasize the need for appropriate economic policies, which provide incentives for investment and employment creation. The second risk deals with the potential difficulties the Government may face in addressing politically and socially unpopular reforms (e.g., redundancy in the teacher corps and introduction of user fees), which may adversely affect various stakeholders. This risk would be mitigated by providing financing for workshops/seminars aimed at generating a broad based national consensus. The third risk stems from the broad scope of the proposed project which would be managed within the MOE but would involve three other ministries. To minimize this risk, the project provides for the establishment of an interministerial committee, and for strengthening the EPIU (i.e., staff, training, equipment).

## VI. AGREEMENTS REACHED AND RECOMMENDATION

6.1 **During negotiations**, the following documents were reviewed and agreed upon:

(i) Standard bidding documents, design plans, implementation schedules, and updated cost estimates for all civil works components; master lists for procurement of equipment, furniture, and books and estimated value of contracts; and terms of reference for consultancies and studies; further revisions to the bidding documents will be completed by June 30, 1993, to comply with the new Bank guidelines on use of standard bidding documents; the terms of reference for the labor market component, as well as the equipment lists for the BCC Library and the foreign language program, will be submitted to the Bank by May 31, 1993;

(ii) Draft education development plan (1993-2000), which reflects the Government's policy framework (para. 2.12); it was agreed that the Bank will provide detailed comments by mid-June;

(iii) Legal provisions for establishing the new TVET Policy Coordinating Council/Employment and Training Fund (ETF) and for effecting changes in the National Training Board's mandate (paras. 2.5, 3.5e);

(iv) The 5-year education public expenditure program and the 1993/94 budget estimates, which are consistent with the Government's education strategy, and reflects adequate levels of counterpart funding and non-salary operating budgets for the entities supported under the project (para. 3.4f/ii);

(v) Future mandate of Erdiston College (para. 2.8); and

(vi) Institutional arrangements for project implementation (paras. 4.14, 4.15).

6.2 **As conditions of effectiveness**, (a) take all necessary actions for revising the mandate of the NTB, and for establishing the TVET Policy Coordinating Council/ETF, with an appropriate structure, mandate, and staff, which is acceptable to the Bank (paras. 2.5, 3.5e); (b) adopt a set of regulations, acceptable to the Bank, for the operation of the ETF (paras. 2.5, 3.5e); and (c) appoint an executive director an administrative and financial officer, and an expert in training fund management, all with functions, qualifications and experience satisfactory to the Bank, (paras. 2.5, 3.5e).

6.3 **As condition of disbursement** for project activities related to the upgrading of Erdiston College, including acquisition of furniture and equipment, no funds will be disbursed unless the Bank has received final design plans, cost estimates and technical specifications, all satisfactory to the Bank (para. 3.4 a/v).

6.4 The following actions have been agreed upon to ensure successful implementation of the project:

(a) Submit to the Bank (no later than December 31, 1993) a detailed, time-bound action plan, satisfactory to the Bank, for restructuring of Erdiston College, which would provide for: implementation of the revised mandate; adoption of cost-effective teaching modes that take into account the projected demand for in-service training; staff reduction targets and discontinuance of initial teacher training at the primary level; and implement agreed upon action plan (para. 2.7, 2,8);

(b) Submit to the Bank (no later than December 1993) a time-bound action plan for reducing the unit cost of technical/vocational courses in secondary education through the concentration/consolidation of course offerings in upper secondary education and/or in strategically placed schools (para. 2.7. 2.8); and implement plan according to agreed upon timetable;

(c) Design a program, acceptable to the Bank, (not later than August 31, 1996) for the delivery of private sector commissioned training at the BCC; and establish a division (Industry Services Unit) at the BCC for administering the program, which would operate on a cost recovery basis (para. 3.5d/iii);

(d) Improve the internal efficiency of education and training system by progressively raising S/T ratios, so as to reach 23:1 in primary education and 19:1 in secondary education by January 31, 1996, and maintaining them above these levels thereafter (para. 2.7);

(e) Submit to the Bank (not later than December 31, 1994) a time-bound cost recovery program for the tertiary institutions (UWI, BCC, SJPP, Erdiston College), and thereafter implement the program (paras. 2.9, 2.10, 3.4f/ii);

(f) Submit to the Bank through the TVET Policy Coordinating Council (not later than December 31, 1996) a National Training Plan, a manual of performance targets for post-secondary TVET programs, and an articulation manual (paras. 2.5, 3.5e);

(g) Submit to the Bank for its review and approval (not later than January 31 of each year) the proposed rolling five-year public expenditure program (PEP) for the education and training sector, and the evidence of actual expenditures incurred in the education sector in the previous year (not later than May 31 of each year); and implement the PEP (para. 3.4f/ii);

(h) Submit bi-annual progress reports to the Bank not later than July 31 and December 31 of each year; and an annual work program (not later than January 31 of each year), covering project activities, implementation schedule and proposed budget (paras. 4.14, 4.15);

(i) Hold annual reviews with the Bank during the first quarter of each year to exchange views on: (i) implementation progress and attainment of project objectives, as measured by the monitoring and evaluation indicators in Annex IV; and (ii) changes in project design and/or implementation that may be necessary. In addition to these issues, the mid-term evaluation, to be held in 1997, will address the specific issues mentioned in paragraph 4.16. If based on the above reviews, progress is found unsatisfactory, the Government will take all necessary remedial actions (para. 4.16); and

(j) Maintain the TVET Council, the EPIU and the Interministerial Committee with functions, structure and staff satisfactory to the Bank and operate the ETF in accordance with the regulations agreed with the Bank (paras. 2.5, 3.5e, 4.14, 4.15).

**6.5** Subject to the above conditions, the proposed project constitutes a suitable basis for a Bank loan of US\$7.8 million equivalent to Barbados, repayable in 15 years, including a 5-year grace period, at the Bank's standard variable interest rate.

**BARBADOS**  
**HUMAN RESOURCES PROJECT**

**Annex List**

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Annex I

BARBADOS  
HUMAN RESOURCES PROJECT  
Summary Accounts by Year

	Totals Including Contingencies BD\$						Totals Including Contingencies US\$					
	93/94	94/95	95/96	96/97	97/98	Total	93/94	94/95	95/96	96/97	97/98	Total
<b>I. INVESTMENT COSTS</b>												
A. Civil Works	0.0	0.4	0.7	1.3	0.7	3.1	0.0	0.2	0.3	0.7	0.4	1.6
B. Equipment	0.4	0.9	1.3	1.7	1.3	5.6	0.2	0.5	0.6	0.9	0.7	2.8
C. Furniture	0.0	0.2	0.3	0.3	0.4	1.2	0.0	0.1	0.2	0.1	0.2	0.6
D. Books & Reference Mater.	0.2	0.3	0.2	0.2	0.3	1.2	0.1	0.1	0.1	0.1	0.1	0.6
E. Training Materials	0.0	0.1	0.2	0.2	0.3	0.7	0.0	0.0	0.1	0.1	0.1	0.4
F. Professional Fees	0.0	0.1	0.0	0.3	0.1	0.4	0.0	0.0	0.0	0.1	0.0	0.2
G. Technical Assistance												
1. Foreign Consultancies	0.0	0.6	0.8	0.8	0.4	2.6	0.0	0.3	0.4	0.4	0.2	1.3
2. Local Consultancies	0.2	1.5	2.0	2.0	1.9	7.6	0.1	0.8	1.0	1.0	0.9	3.8
Sub-Total	0.2	2.1	2.8	2.8	2.3	10.2	0.1	1.0	1.4	1.4	1.2	5.1
H. Training												
1. Local Training	0.0	0.1	0.3	0.4	0.3	1.1	0.0	0.0	0.2	0.2	0.2	0.6
2. Overseas Training	0.0	0.2	0.4	0.1	0.1	0.8	0.0	0.1	0.2	0.0	0.0	0.4
3. Study Tours	0.1	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.2
Sub-Total	0.1	0.4	0.8	0.5	0.4	2.2	0.0	0.2	0.4	0.2	0.2	1.1
I. Proj.Preparation Facility	1.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.5
<b>Total INVESTMENT COSTS</b>	<b>1.9</b>	<b>4.5</b>	<b>6.3</b>	<b>7.2</b>	<b>5.8</b>	<b>25.7</b>	<b>1.0</b>	<b>2.2</b>	<b>3.2</b>	<b>3.6</b>	<b>2.9</b>	<b>12.9</b>
<b>II. RECURRENT COSTS</b>												
A. Operation & Maintenance	0.0	0.3	0.4	1.0	1.0	2.6	0.0	0.1	0.2	0.5	0.5	1.3
B. Staff Salaries	0.2	0.4	0.6	0.6	0.6	2.3	0.1	0.2	0.3	0.3	0.3	1.1
C. Project Preparation	0.6	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.3
<b>Total RECURRENT COSTS</b>	<b>0.7</b>	<b>0.6</b>	<b>0.9</b>	<b>1.6</b>	<b>1.6</b>	<b>5.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.5</b>	<b>0.8</b>	<b>0.8</b>	<b>2.7</b>
<b>Total PROJECT COSTS</b>	<b>2.6</b>	<b>5.1</b>	<b>7.3</b>	<b>8.8</b>	<b>7.4</b>	<b>31.2</b>	<b>1.3</b>	<b>2.5</b>	<b>3.6</b>	<b>4.4</b>	<b>3.7</b>	<b>15.6</b>

Values Scaled by 1000000.0 5/18/1993 14:27

Annex I

BARBADOS  
HUMAN RESOURCES PROJECT  
BD\$\$

Summary Accounts by Year

	Base Costs					Total	Foreign Exchange	
	93/94	94/95	95/96	96/97	97/98		%	Amount
<b>I. INVESTMENT COSTS</b>								
A. Civil Works	0.0	0.3	0.6	1.1	0.6	2.7	45.0	1.2
B. Equipment	0.3	0.8	1.1	1.5	1.1	4.9	95.0	4.6
C. Furniture	0.0	0.2	0.3	0.2	0.3	1.0	60.0	0.6
D. Books & Reference Mater.	0.2	0.2	0.2	0.2	0.2	1.0	95.0	1.0
E. Training Materials	0.0	0.1	0.2	0.2	0.2	0.6	95.0	0.6
F. Professional Fees	0.0	0.1	0.0	0.2	0.1	0.4	0.0	0.0
G. Technical Assistance								
1. Foreign Consultancies	0.0	0.5	0.7	0.7	0.3	2.2	75.0	1.7
2. Local Consultancies	0.1	1.4	1.7	1.6	1.5	6.3	0.0	0.0
Sub-total	0.2	1.9	2.4	2.3	1.8	8.6	19.6	1.7
H. Training								
1. Local Training	0.0	0.0	0.3	0.3	0.3	0.9	0.0	0.0
2. Overseas Training	0.0	0.2	0.3	0.0	0.1	0.7	95.0	0.6
3. Study Tours	0.1	0.1	0.1	0.0	0.0	0.3	80.0	0.2
Sub-total	0.1	0.4	0.7	0.4	0.3	1.9	45.5	0.9
I. Proj.Preparation Facility	1.0	0.0	0.0	0.0	0.0	1.0	53.4	0.5
<b>Total INVESTMENT COSTS</b>	<b>1.8</b>	<b>4.0</b>	<b>5.5</b>	<b>6.0</b>	<b>4.7</b>	<b>22.0</b>	<b>50.4</b>	<b>11.1</b>
<b>II. RECURRENT COSTS</b>								
J. Operation & Maintenance	0.0	0.2	0.3	0.8	0.8	2.3	42.8	1.0
K. Staff Salaries	0.2	0.3	0.5	0.5	0.5	2.0	0.2	0.0
L. Project Preparation	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0
<b>Total RECURRENT COSTS</b>	<b>0.7</b>	<b>0.6</b>	<b>0.8</b>	<b>1.3</b>	<b>1.4</b>	<b>4.8</b>	<b>20.2</b>	<b>1.0</b>
<b>Total BASELINE COSTS</b>	<b>2.6</b>	<b>4.6</b>	<b>6.3</b>	<b>7.4</b>	<b>6.0</b>	<b>26.8</b>	<b>44.9</b>	<b>12.1</b>
Physical Contingencies	0.0	0.2	0.3	0.3	0.3	1.1	50.2	0.6
Price Contingencies	0.0	0.3	0.7	1.1	1.1	3.2	35.4	1.1
<b>Total PROJECT COSTS</b>	<b>2.6</b>	<b>5.1</b>	<b>7.3</b>	<b>8.8</b>	<b>7.4</b>	<b>31.2</b>	<b>44.1</b>	<b>13.8</b>
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Exchange	1.2	2.4	3.3	3.8	3.1	13.8	100.0	13.8

Values Scaled by 1000000.0 5/18/1993 14:27

Annex I

BARBADOS  
HUMAN RESOURCES PROJECT  
Projects Components by Year

	Totals Including Contingencies BD\$\$						Totals Including Contingencies US\$					
	93/94	94/95	95/96	96/97	97/98	Total	93/94	94/95	95/96	96/97	97/98	Total
<b>A. General Education Support</b>												
1. Staff Training	0.0	0.0	0.6	1.9	1.0	3.5	0.0	0.0	0.3	0.9	0.5	1.7
2. Learning Resources	0.2	0.4	0.3	2.7	1.7	5.3	0.1	0.2	0.1	1.4	0.9	2.6
3. Policy Development	0.0	0.1	0.2	0.2	0.2	0.7	0.0	0.1	0.1	0.1	0.1	0.4
<b>Sub-Total</b>	<b>0.2</b>	<b>0.6</b>	<b>1.1</b>	<b>4.8</b>	<b>2.8</b>	<b>9.5</b>	<b>0.1</b>	<b>0.3</b>	<b>0.5</b>	<b>2.4</b>	<b>1.4</b>	<b>4.7</b>
<b>B. TVET Development</b>												
1. TVET Instruction	0.0	0.1	0.7	0.4	0.4	1.8	0.0	0.1	0.3	0.2	0.2	0.9
2. Learning Resources	0.1	0.5	1.4	0.8	1.4	4.2	0.0	0.3	0.7	0.4	0.7	2.1
3. Curriculum & Progr.Devel.	0.0	0.2	0.2	0.1	0.1	0.6	0.0	0.1	0.1	0.0	0.0	0.3
4. Selective TVET Programs	0.4	0.6	1.8	0.7	0.8	4.4	0.2	0.3	0.9	0.4	0.4	2.2
5. Institutional Development	0.1	2.1	1.6	1.6	1.6	7.0	0.0	1.1	0.8	0.8	0.8	3.5
<b>Sub-Total</b>	<b>0.6</b>	<b>3.7</b>	<b>5.7</b>	<b>3.7</b>	<b>4.3</b>	<b>17.9</b>	<b>0.3</b>	<b>1.8</b>	<b>2.9</b>	<b>1.8</b>	<b>2.1</b>	<b>9.0</b>
<b>C. Labor Market Support</b>												
1. Employment Services	0.0	0.4	0.1	0.0	0.0	0.5	0.0	0.2	0.1	0.0	0.0	0.3
2. Labor Market Information	0.0	0.2	0.1	0.0	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.2
<b>Sub-Total</b>	<b>0.0</b>	<b>0.6</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>	<b>0.0</b>	<b>0.3</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>
<b>D. Project Prep./Administr.</b>	<b>0.9</b>	<b>0.2</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>1.9</b>	<b>0.4</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.9</b>
<b>E. Proj.Preparation Facility</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>	<b>0.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>
<b>Total PROJECTS COSTS</b>	<b>2.6</b>	<b>5.1</b>	<b>7.3</b>	<b>8.8</b>	<b>7.4</b>	<b>31.2</b>	<b>1.3</b>	<b>2.5</b>	<b>3.6</b>	<b>4.4</b>	<b>3.7</b>	<b>15.6</b>

Values Scaled by 1000000.0 5/18/1993 14:27

BARBADOS  
HUMAN RESOURCES PROJECT  
BDS\$

Project Components by Year

	Base Costs					Total	
	93/94	94/95	95/96	96/97	97/98	BDS\$	US\$
<b>A. General Education Support</b>							
1. Staff Training	0.0	0.0	0.5	1.6	0.8	2.9	1.4
2. Learning Resources	0.1	0.4	0.2	2.3	1.4	4.5	2.2
3. Policy Development	0.0	0.1	0.2	0.2	0.1	0.6	0.3
Sub-total	0.1	0.5	0.9	4.1	2.3	8.0	4.0
<b>B. TVET Development</b>							
1. TVET Instruction	0.0	0.1	0.6	0.4	0.4	1.5	0.8
2. Learning Resources	0.1	0.5	1.2	0.7	1.1	3.6	1.8
3. Curriculum & Progr.Devel.	0.0	0.2	0.2	0.1	0.1	0.5	0.3
4. Selective TVET Programs	0.4	0.6	1.6	0.6	0.6	3.8	1.9
5. Institutional Development	0.1	1.9	1.4	1.3	1.3	5.9	3.0
Sub-total	0.6	3.3	5.0	3.0	3.4	15.3	7.7
<b>C. Labor Market Support</b>							
1. Employment Services	0.0	0.3	0.1	0.0	0.0	0.5	0.2
2. Labor Market Information	0.0	0.2	0.1	0.0	0.0	0.3	0.2
Sub-total	0.0	0.5	0.2	0.0	0.0	0.8	0.4
<b>D. Project Prep./Administr.</b>	0.9	0.2	0.2	0.2	0.2	1.7	0.9
<b>E. Proj.Preparation Facility</b>	1.0	0.0	0.0	0.0	0.0	1.0	0.5
<b>Total BASELINE COSTS</b>	2.6	4.6	6.3	7.4	6.0	26.8	13.4
Physical Contingencies	0.0	0.2	0.3	0.3	0.3	1.1	0.6
Price Contingencies	0.0	0.3	0.7	1.1	1.1	3.2	1.6
<b>Total PROJECT COSTS</b>	2.6	5.1	7.3	8.8	7.4	31.2	15.6
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Exchange	1.2	2.4	3.3	3.8	3.1	13.8	6.9

Values Scaled by 1000000.0 5/18/1993 14:27

**BARBADOS  
HUMAN RESOURCES PROJECT  
Project Implementation Plan**

CY IBRD FY (July to June) BARBADOS FY (April-March) QUARTER CY	1992				1993				1994				1995				1996				1997				1998				1999				2000			
	92-93				93-94				94-95				95-96				96-97				97-98				98-99				99-2000							
	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	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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Civil Works</b>																																				
US\$1.6 million; loan US\$0.3 million																																				
Erdiston College																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
Professional Services																																				
BCC Teacher Resource Center																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
Professional Services																																				
SJPP Teacher Resource Center																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
Professional Services																																				
Public Service Training																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
Professional Services																																				
Foreign Language Training																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
BCC Library Extension																																				
Design Preparation																																				
Approvals																																				
Bidding/Evaluation/Award																																				
Construction Period																																				
Professional Services																																				
<b>Equipment/Furniture/Trng. Materials</b>																																				
US\$3.8 million; loan US\$3.2 million																																				
Master Lists																																				
Specs/Bidding Documents																																				
Bidg./Eval./Award																																				
Orders & Delivery																																				
Installation & Acceptance																																				
<b>Books and Reference Materials</b>																																				
US\$0.6 million; loan US\$0.5 million																																				
Preparation																																				
Placement of Orders																																				
Delivery Period																																				
<b>Training</b>																																				
US\$1.1 million; loan US\$0.5 million																																				
Training Period																																				
<b>Technical Assistance</b>																																				
US\$5.1 million; loan US\$2.8 million																																				
Services Period																																				
<b>Project Preparation Facility (PPF)</b>																																				
US\$0.5 million; loan US\$0.5 million																																				

Effectiveness 11/30/93

Completion 8/30/00  
Closing 12/31/00

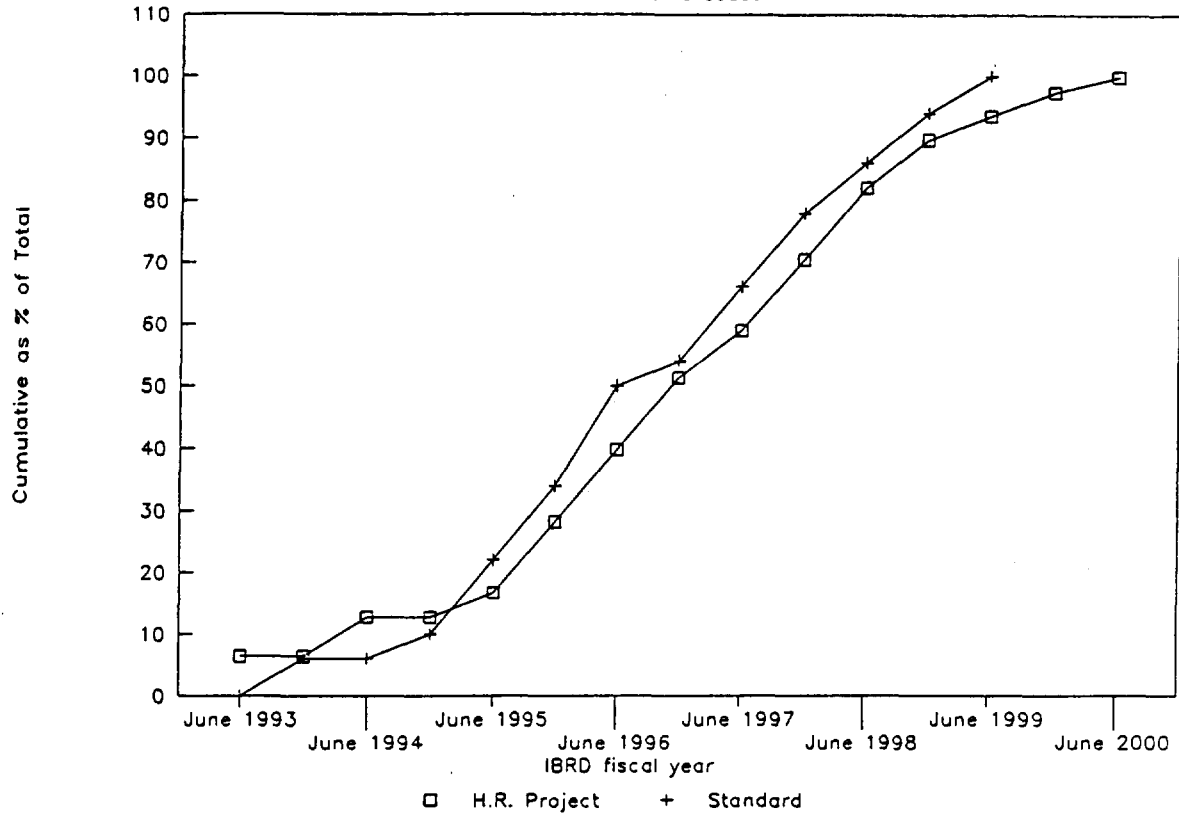
**BARBADOS**  
**HUMAN RESOURCES PROJECT**  
**Disbursement Schedule**

IBRD Fiscal Year and Semester	Disbursement		Cumulative as % of total	Disbursement Profile (%) Barbados
	Semester ----- (US\$ million) -----	Cumulative ----- (US\$ million) -----		
1993				
1st	0.0	0.0	0	
2nd	0.5	0.5	6%	0%
1994				
1st	0.0	0.5	6%	6%
2nd	0.5	1.0	13%	6%
1995				
1st	0.0	1.0	13%	10%
2nd	0.3	1.3	17%	22%
1996				
1st	0.9	2.2	28%	34%
2nd	0.9	3.1	40%	50%
1997				
1st	0.9	4.0	51%	54%
2nd	0.6	4.6	59%	66%
1998				
1st	0.9	5.5	71%	78%
2nd	0.9	6.4	82%	86%
1999				
1st	0.6	7.0	90%	94%
2nd	0.3	7.3	94%	100%
2000				
1st	0.3	7.6	97%	
2nd	0.2	7.8	100%	

Closing Date: December 31, 2000

### Barbados: Human Resources Project

Disbursement Forecast



Disbursement Schedule

SCHEDULE 1

Allocation of Loan Proceeds

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Category of Expenditures	Amount of the Loan Allocated (US\$ million equivalent)	% of Expenditures to be Financed
1. Civil Works	0.3	20
2. Equipment, Training Materials, Furniture, and Books and Reference Materials	3.3	100% of foreign expenditures and 85% of local expenditures for locally procured items
3. Consultancies	2.4	100% of foreign expenditures and 35% of local expenditures
4. Overseas Fellowships and Study Tours	0.5	100
5. PPF	0.5	100
6. Unallocated	0.8	
<u>TOTAL</u>	<u>7.8</u>	

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## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB- COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
I. GENERAL EDUCATION				10% increase in national examination scores		
	1. Staff Training	a) Strengthen both pedagogical and technical skills of staff.	Training, Technical Assistance	800 primary and secondary school teachers trained	M.O.E. Training Plans	Start 1994/95 Completion 1999/2000
	b) Improve school management	Training, Technical Assistance	100 M.O.E. staff, counsellors, and school principals trained		M.O.E. District Officers	Start 1995/96 Completion 1999/2000
2. Learning Resources	a) Upgrade learning resources in schools and libraries to improve access and use.	Equipment, Training, Fellowships	Establishment of 15 primary school library resource centers  Upgrading of the National Library		M.O.E. National Library	Start 1994/95 Completion 1999/2000

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB- COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
3. Policy Development	a) Redesign the national examinations and certification system.	Technical Assistance, Training, Workshops	Continuous assessment system developed by mid-project and gradually implemented thereafter.		M.O.E.	Start 1994/95 Completion 1999/2000
	b) Fine tune and update annually the education PEP	Technical Assistance, Training, Workshops	5-year education PEP.		M.O.E.	Start 1994/95 Completion 1999/2000
	c) Raise S/T ratios in primary and secondary education		Primary: 25 Secondary: 21		M.O.E.	Start 1993/94 Completion 1999/2000
	d) Design and implement a comprehensive cost-recovery program		Cost recovery raised to 7% of total education recurrent spending.		M.O.E. and Ministry of Finance	
	e) Conduct studies to assess the effectiveness of policy reforms and project initiatives	Technical Assistance Workshops	Completed studies in the following areas: * Quality Assessment *Cost Recovery *General Education Training.		MOE Planning Unit.	Start 1994/95 Completion 1999/2000

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
<b>II. TVET</b>  <b>1. TVET Instruction Multi-Certification Level Teacher Training Program</b>	a) Develop the general education, technical and pedagogical competence of TVET educators at the secondary and post-secondary levels and at the NTB.	Technical Assistance, Fellowships, Workshops	No. of Teachers trained at each level as follows: Certificate: <u>40</u> Associate Degree: <u>25</u> B'ED: <u>20</u> DIP.ED: <u>50</u>	50% increase in graduate placement rates.	B.C.C. will have overall responsibility for accreditation and quality control, and handle operational aspects and certification of Associate Degree Level.	Start 1995/96 Completion 1999/2000
Teacher Trainers	b) Prepare S.J.P.P and B.C.C. instructors in advanced level pedagogical and technical skills to enable them to facilitate teacher training courses	Study Tours, Technical Assistance, Fellowships	4 instructors trained		B.C.C. would select candidates and monitor study tours	Start 1995/96 Completion 1999/2000

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB- COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
Instructor Feedback and Performance Evaluation System	c) Introduce an annual performance appraisal system for TVET instructors to acquire feedback on teaching.	Staff Orientation sessions Technical Assistance.	50% of instructors use classroom feedback techniques.  Procedures handbook for performance evaluation for BBC and SJPP		B.C.C., S.J.P.P., NTB and TVET secondary education officers and union representatives	Start 1995/96 Completion 1999/2000
2. Instructional Materials and Library Resources	a) Establish teacher resource centers (BCC, and SJPP).  b) Upgrade BCC Library.	Architectural Services, Equipment Books, Training.	3 teacher resource centers established.  Increased use of learning resources  Increased library circulation.		BBC, SJPP	Start 1994/95 Completion 1999/2000  Start 1997/98- Completion 1998/99

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
<b>3. Curricula and Program Development</b>  <b>Curriculum Development Expertise</b>	<b>a) Increase the level of expertise in curriculum development and evaluation methodologies.</b>	<b>Technical Assistance, Workshops, Fellowships</b>	<b>1 Trained full-time curriculum specialist at BCC and SJPP</b>		<b>B.C.C. and S.J.P.P.</b>	<b>Start 1994/95 Completion 1997/98</b>
<b>Program Review and Evaluation Procedures</b>	<b>b) Develop and pilot program review/evaluation procedures, including establishment and use of program advisory committees at SJPP and BCC</b>	<b>Appointment of a steering committee, Technical Assistance, Workshops</b>	<b>2 annual program reviews/evaluations at BCC and SJPP</b>  <b>Improved program advisory committee system at BCC and SJPP</b>  <b>10 tertiary level TVET programs discontinued or downsized.</b>		<b>B.C.C., S.J.P.P. and M.O.E.</b>	<b>Start 1994/95 Completion 1997/98</b>

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
4. Selective TVET Training  Youth Training	a) Prepare youth to be employed or entrepreneurs in the art and craft business	Local training, equipment, and materials			Community Development & Culture	Start 1995/96 Completion 1997/98
Civil Service Training Administration Division	b) Expand and upgrade public sector training	Architectural Services, Fellowships, Technical Assistance	2 new training rooms equipped. 200 participant increase per year		Training Administration Division	Start 1994/95 Completion 1997/98
B.C.C. Industry Services Unit	c) Develop the capacity to design and implement customized short-term training for business and industry	Staff, Technical Assistance	Self-sufficient operation by project completion		B.C.C.	Start 1994/95 Completion 1997/98
Foreign Language Training	d) Improve availability and quality of language instruction at secondary and tertiary level	Technical Assistance, Equipment, Instructional Materials, Study Tours, Training	BCC Language Center upgraded and equipped  150 teachers trained  30% increase in income from BCC Language Center operations		B.C.C.	Start 1993/94 Completion 1997/98

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
<p>5. TVET Institutional Capabilities</p> <p>TVET Policy Coordinating Council</p>	<p>a) Establish a high level national council to:</p> <ul style="list-style-type: none"> <li>● elaborate TVET policies and plans.</li> <li>● establish performance targets for public TVET programs.</li> <li>● coordinate TVET programs.</li> <li>● manage the Employment and Training Fund.</li> <li>● improve the status of TVET.</li> </ul>	<p>Technical Assistance, Equipment, Furniture, Training, Workshops</p>	<p>-Production of annual TVET plan, performance targets for tertiary TVET programs, articulation agreements, and promotional campaigns</p> <p>-80% of the ETF program is used for private sector training and joint ventures between the private and public sectors</p>		<p>Min. of Labor Consumer Affairs &amp; the Environment.</p>	<p>Start 1993/94 Completion 1999/2000</p>
<p>TVET Management Training</p>	<p>a) Carry-out workshops for managers; and develop a certificate level TVET Management program at B.C.C.</p>	<p>Workshops</p>	<p>20 TVET managers graduate with certificates every two years.</p>		<p>B.C.C.</p>	<p>Start 1993/94 Completion 1997/98</p>

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
Studies for TVET Institutional Development	b) Carry out tracer studies of graduates of TVET programs and conduct research to assess the effectiveness of policy reforms and project initiatives	Technical Assistance	Completed studies in the following areas: *Secondary TVET reform *Graduate tracer studies *BCC and SJPP mandate and structure *TVET project evaluation (e.g., teacher and management training; instructor feedback system.)		TVET Policy Coordinating Council Other Institutions	Start 1994/95 Completion 1999/2000

## HUMAN RESOURCES PROJECT: Monitoring and Evaluation Indicators

COMPONENT/ SUB COMPONENT	OBJECTIVES	INDICATORS			INSTITUTIONAL ARRANGEMENTS	TIMING
		Input	Output	Impact		
III. LABOR MARKET SUPPORT	Strengthen employment services and labor market information at the NEB and MRSU.	Equipment, Technical Assistance, Workshops and Study Tours.	Two additional NEB offices established.  Streamlined administrative procedures at the NEB  25% increase in the total number of applicants registered per month.  Production of high quality timely labor market reports	20% increase in NEB placement rates.	Ministry of Labor. Consumer Affairs and the Environment.	Start 1994/95 Completion 1999/2000

**BARBADOS**

**HUMAN RESOURCES PROJECT**

**Civil Works Component**

**A. General Education Support**

- 1. Erdiston College (US\$0.5 million, including contingencies)** Erdiston College would be upgraded, including acquisition of furniture and equipment. The final design plans, cost estimates, and technical specifications will need to be approved by the Bank before disbursements for this component can take place.

**B. Technical and Vocational Education and Training**

- 2. Barbados Community College (BCC) (US\$0.1 million, including contingencies)**  
Teacher Resource Center

A teacher resource center, comprising a self-help audio-visual preparation center and a technology literacy resource lab, would be accommodated within the existing facilities of the BCC. Civil works would involve interior wall, mechanical and electrical modifications to adapt existing spaces to the requirements of the center.

- 3. Samuel Jackman Prescod Polytechnic (SJPP) (US\$0.1 million, including contingencies)**  
Audio-Visual Resource Center

The facility would provide audio-visual viewing, storage and self-help preparation resource areas. Proposed improvements at the SJPP include expansion (36 sq.m.) of the existing Audio-Visual Aids room to incorporate adjacent balcony space under the roof; and partitioning of the existing executive officer room to provide separate rooms for the executive officer, counsellor and storage. All rooms will be air-conditioned.

- 4. BCC Main Library Expansion (US\$0.5 million, including contingencies)**

The proposed extension of the present library involves (i) a new mezzanine floor, in the form of a balcony, along the exterior walls of the central reading space (227 sq.m.); (ii) incorporation of the inner courtyard into the reading space of the library by constructing a floor and a roof over the courtyard (107 sq.m.); and (iii) enclosure of the landing area at the student center to serve as a lobby to the library (73 sq.m.).

**C. TVET Selective Training Programs**

**5. Training Administration Division (US\$0.4 million, including contingencies)**

A one-story extension to the existing Training Center of the Civil Service Ministry will be funded under the project. The addition provides for two additional classrooms, a resource center, an office, and storage space. Proposed site improvements include improved access to the site, 33 parking spaces, paving of driveways, a ramp for wheel chair access to the training facilities, and covered walkways. The design of the new structure follows the architecture of the existing facilities. A sloping roof is contemplated over the addition to avoid water leaks, presently a problem with the flat roof of the existing structures.

**6. Foreign Language Training (US\$0.02 million, including contingencies)**

Civil works will involve sound attenuation improvements in the space contemplated for foreign language training at the BCC.

**BARBADOS**  
**HUMAN RESOURCES PROJECT**

**Procurement Thresholds and Prior Review Requirements**  
(US\$ 000)

Type of Contract	Contract Value	Procurement Thresholds Aggregate Amount	Type of Procurement	Prior Review Requirement /a Contract Value
Civil Works	above 900	NA	ICB	200 or more
	50 to 900	1600	LCB	200 or more
	less than 50	50	Shopping	NA
Equipment, Furniture and Training Materials	50 or more	NA	ICB	50 or more
	20 to 50	1500	LCB	NA
	less than 20	100	Shopping	NA
Books and Reference Materials	all contracts	600	Shopping /b	50 or more all direct purchases
Consultancies, Training and Professional Services	all contracts	NA	Other /c	all contracts

/a Other contracts would be subject to selective post-award review.

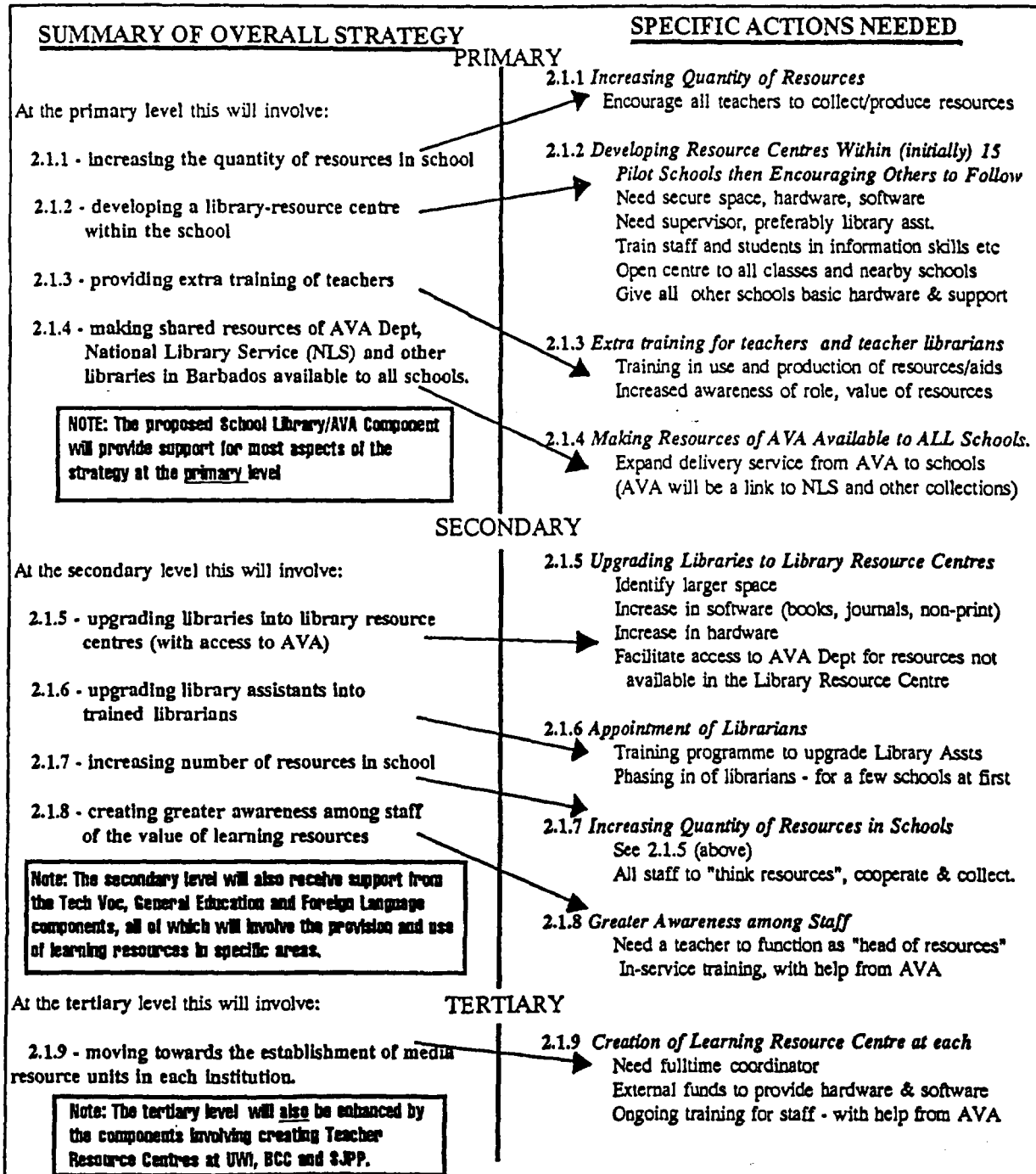
/b This includes negotiated purchases for books and journals, up to an aggregate of US\$200,000.

/c In accordance with Bank guidelines.

## BARBADOS HUMAN RESOURCES PROJECT

### Increasing the Use of Learning Resources Throughout the Educational System

#### 2.1 Strengthening Resource Capabilities WITHIN INDIVIDUAL SCHOOLS AND INSTITUTIONS



#### 2.2 Strengthening Resource Capabilities by External Assistance from the Central "NERVE CENTRE" at AVA

The proposed development of the well equipped and staffed *NERVE CENTRE* at the Audio Visual Aids Department will ensure that software, hardware, advice and training are available to ALL the above sectors to supplement what is actually within the individual schools. In addition, upgrading of National Library Service together with proposals to establish a networking mechanism will make further resources available to all parts of the educational system. These developments are all parts of components of the Third World Bank Project

## **BARBADOS**

### **HUMAN RESOURCES PROJECT**

#### **Multi-certification Level TVET Teacher Training Program**

#### **BACKGROUND**

Currently a program exists at Erdiston College to prepare Industrial Arts teachers for the secondary school system. Other than this non degree teacher preparation, the only option technical vocational teachers have at the secondary and tertiary levels to acquire advanced training is overseas or to acquire a general Diploma in Education or Bachelor of Education Degree from UWI. Planning for the proposed program started 3-5 years ago with a vision that such a program might have potential for other eastern caribbean countries.

#### **COMPONENT**

**Concept:** A four level teacher training program specifically for technical vocational teachers will be delivered by Erdiston College, SJPP, and BCC. Levels of certification include a Certificate (Erdiston), Associate Degree, Diploma in Education, and Bachelors Degree (BCC). The program participants will primarily be existing teachers in the system. The program content will include an emphasis on general education, vocational technical and pedagogical teacher competencies. Extensive field work in schools and industry will be embedded into the program to maximize the relevance of the course work. The program will be delivered on a flexible basis to accommodate the needs of existing teachers (i.e. weekends, evenings, summer breaks and day release).

#### **PROGRAM CERTIFICATION**

One important feature to be designed into the program is multi-entry and multi-exit points. This was deemed necessary, given the divergent backgrounds and needs of potential teacher trainees. The complexity of such a certification structure is made more acute by the variety of graduation labels which are often used interchangeably to mean different levels of study. More importantly, the requirements of instructors teaching TVET must be recognized, as must the credit requirements of the institutions delivering the program. The certification ladder will include the following following levels:

**1. Level I: Certificate in Technical Vocational Education**

This level is intended for individuals who possess the necessary trade or technical background and require the basic professional skills of teaching in the technical vocational area. In addition, teacher trainees would also complete a number of core general competencies; such as communications or science. This level which would be equivalent to a year of fulltime study and would be offered on a very flexible part-time basis during the evening, weekends and summer. Every summer a basic introduction program would be offered consisting of six to eight weeks to prepare new instructors for the fall semester or term.

The balance of the program would be offered as described above and instructors would be expected to complete this level within two years of commencing employment. It is recommended that this certificate be a condition of employment for secondary and tertiary level TVET teachers. This level will include many of the professional course competencies offered at higher certification levels. Therefore the expected outcomes will need to be standardized as identified in the section on CBE.

**2. Level II: Associate Degree in Technical and Vocational Education**

While the one-year certificate focused on professional skills in the context of their vocational technical specialty, this level's emphasis is the reverse. Primarily, teacher trainees at this level are learning the skills and knowledge of their trade or technical area through course work and industry fieldwork. Integration of the occupational and educational dimensions will be accomplished through additional professional course and field work. To increase the relevance of general studies in technical/vocational education, various options must be reviewed and appropriate requirements included. This level would have to adhere to the total credit requirements established for other BCC associate degrees. This program level could be offered on a limited fulltime basis over two years, but primarily is viewed as being delivered via a evening, weekend, and summer schedule. This would not only increase accessibility for existing teachers but would reduce the costs and disruption related to fulltime release. It would also maximize utilization of existing space and equipment to support the program.

**3. Level III: Diploma in Technical and Vocational Education (Dip.TVET)**

The primary target group for this level are those teachers who possess a first two-three year certificate, diploma or associate degree, usually in a non-teaching area; such as engineering, nursing or commerce. These teachers require professional certification for advancement. Teachers would not be granted credits for the Certificate Level I professional course work, as Level III would be more advanced, in spite of being in the same course competency area.

#### **4. Level IV: Bachelors Degree in Technical and Vocational Education**

The credit system for two alternative schemes would have to be put in place at BCC to articulate with Levels II and III. Scheme 'A' would have some modification of content and advanced credits recognized for the Diploma Level III. Scheme 'B' would be for individuals being admitted directly from the Associate Degree in Technical and Vocational Education. The addition of professional and industrial field work would be important curriculum enhancements for the proposed program.

This four-level model will need refinement to take into account the credit system, admission requirements and graduation regulations. The goal is to put in place a teacher education system for technical vocational teachers which equals or exceeds the structure and rigour available to their general education colleagues, while incorporating current ideas about TVET teacher-education reform.

**Purposes:** The program is intended to professionalize the technical vocational teaching occupation through the provision of a tiered training program. Equally important, the program will facilitate the improvement of the instructional process which in turn should have a measurable impact on learning and achievement.

**Activities:** The component consists of four elements (design, implementation, evaluation and specialized teacher training) which emphasize a broad base of input, careful planning, integrated design between courses and certification levels, systematic monitoring of the phases of implementation and development of the Barbados talent pool of TVET educators to deliver and support the program. The budget includes foreign fellowships, foreign and local consultancies and materials acquisition.

## **BARBADOS**

### **HUMAN RESOURCES PROJECT**

#### **TVET Policy Coordinating Council/Employment and Training Fund Mandate, Structure, and Resources**

##### **Mandate**

1. The TVET Council would have the following powers and responsibilities:
  - (a) Provide advice on national TVET policies;
  - (b) Elaborate national TVET plans;
  - (c) Ensure that national policy and plans are given effect to;
  - (d) Establish standards for TVET programs and institutions;
  - (e) Coordinate the provision of TVET, including articulation between programs;
  - (f) Determine the facilities and resources required to ensure proper standards of education and training and welfare of students and staff of the institutions;
  - (g) Advise on the overall allocation of resources for TVET;
  - (h) Establish and manage an Employment and Training Fund (ETF); and
  - (i) Provide assistance to the private sector in the design of training plans.
  
2. The ETF would contract with various institutions (both public and private), which would provide the training programs. Specific goals would include:
  - (i) expand in-company training through the provision of financial assistance to employers (i.e., loans, grants), with a view to upgrade skills of employees and raise productivity; priority would be given to companies with well elaborated annual business/training plans; and
  - (ii) support priority training programs aimed at vulnerable groups (e.g., retrenched workers or those about to be retrenched) for placement in an enterprise or for installation in self-employment.

##### **Structure**

3. The Council would be established at the Ministry of Labour, Consumer Affairs, and the Environment. The Council's board will have the following membership:
  - (i) Permanent Secretary, Ministry of Labour, Consumer Affairs, and the Environment;
  - (ii) Chief Education Officer, Ministry of Education';
  - (iii) Three members appointed following recommendations of the associations which represent employers (i.e., Barbados Employers' Confederation, Barbados Manufacturers' Association, and Barbados Hotel Association;

- (iv) Three members appointed following recommendations of the Boards of the Barbados Institute of Management and Productivity, the Samuel Jackman Prescod Polytechnic, and the Barbados Community College;
- (v) Two members appointed on recommendations of the trade unions; and
- (vi) Executive Director of the TVET Council.

4. The Council would consist of a core group of high quality professional/administrative staff, headed by an Executive Director. The following committees would be established under the Council:

- (a) **TVET Policy, Planning and Standards Committee** to oversee the preparation of policies, plans, and standards;
- (b) **TVET/ETF Financing Committee** to elaborate criteria and procedures for allocation of TVET funds; make recommendations on annual allocations in accordance with those criteria, national plans, and business plans of the training institutions; and monitor use of training funds; and establish financial procedures to ensure transparency in the use of ETF funds; and to maintain proper accounts for training expenditures.
- (c) **General Administration Committee** to be responsible for oversight of the administration of the Council/ETF; and
- (d) **ETF Training Management Unit** to formulate eligibility criteria for receiving funds; to monitor training performance and outcomes to ensure that the training meets the standards; to promote training; and to assist companies in assessing training needs, preparing training plans, and evaluating results.

#### **Resources**

5. The operations of the Council/ETF would be funded from proceeds of the training levy, which would be voted from the Consolidated Fund. The Council would prepare an annual estimate of the funds required. The Council would also have available a consultant budget to undertake specialized work, commission studies/surveys, and/or assist during peak operational periods. The ETF is also expected to attract donor funding, particularly as the adjustment program gets underway.

**BARBADOS**

**HUMAN RESOURCES PROJECT**

**Selected Documents Available in Project File**

**A. Selected Reports Related to the Sector**

**Education Studies in Barbados**, NACE seminar, December 1992.

**Third Education and Training Project Review and Assessment of Salaries and Conditions of Service of Technical/Vocational Teachers Draft Report**, February 15, 1993.

**Labour Market Information Report**, 1990.

**Teacher Upgrading at the Primary and Secondary Levels of the Barbados Education System**, 1992.

**Efficiency and Effectiveness in Technical and Vocational Education**, David C. Martin and James Porter, August 28, 1992.

**Report on Testing, Certification and Quality Assurance in Vocational Education/Training Consultancy to the National Training Board**, A. J. Payne, May 1989.

**Report of the Resource Allocation Committee for the Human Resources Project**, February 1993.

**Curriculum Development Consultancy to the Ministry of Education**, J. Faccenda, British Council, September 1991.

**Labor and the Social Safety Net in Barbados**, William Loehr, February 1992.

**Barbados Education and Training Sector Review**, Inter-American Development Bank, March, 1991.

**Progress on Major Educational Policies and Objectives**, January to December 1990, Barbados Ministry of Education & Culture, February 1991.

**Ex-Post Evaluation Data, Report in Partial Fulfillment of the Terms and Conditions of the Loan Contract** between Barbados and the IDB on the Education and Training Project, Loan No. 201/IC - BA, May, 1988.

**Organization and Managerial Analysis of the Ministry of Education**, Barbados, June 1991.

**An Agenda for Change- Review of Technical and Vocational Education of Barbados**, Association of Canadian Community Colleges, September 26, 1986.

**Third Education and Training Project Loan Request to the Inter-American Development Bank and The International Bank for Reconstruction and Development, Government of Barbados, February 1991.**

**Public Expenditure Program (PEP), February 1993, (PPF).**

**TVET Teachers Survey, August 3, 1992, (PPF).**

**Medium-Term Policy Option Paper, December 16, 1992, (PPF).**

**Erdiston College Study, March 1993, (PPF).**

**Review and Assessment of the National Library System, (PPF).**

**B. Selected Reports Related to the Project**

**Pre-feasibility Report on the Establishment of An Industry Service Unit at the Barbados Community College.**

**Report of Secondary School Technical/Vocational Education and Training Reform Committee.**

**Training Proposals for the Delivery of the General Education Teacher Training Component of the World Bank Project.**

**Report of the Audio Visual Aids Department, December 1992.**

**General Education Teaching Training Committee Summary and Recommendations, January 1993.**

**Proposal for a consultancy on the organization and structure of the Barbados Community College.**

**Barbados Language Centre Proposal, Barbados Community College, 1993-95.**

**Barbados Youth Service, Project Proposal on An Arts and Crafts Program, March 10, 1992.**

**Proposal for the Agricultural Programme of the Barbados Youth Service.**

**Feasibility Study: Barbados Youth Service Training Programme, February 19, 1993.**

**Labor Market Survey, March 1993, (PPF).**

**Labour Market Research, November 1992, (PPF).**

**Apprenticeship Program Assessment, February 1993.**

**Barbados Third Education and Training Project, Consultant Report, B.Freeman and D. Rusnell, February 1992.**

**In-Service Teacher Training Needs at the Primary and Secondary Levels in the Barbados Education System, December 14, 1992, (PPF).**

**Proposed Establishment of a Technical and Vocational Education and Training Council, January 26, 1993, (PPF).**

**Computerization of NEB/MRSU, January 1993, (PPF).**

**BARBADOS**

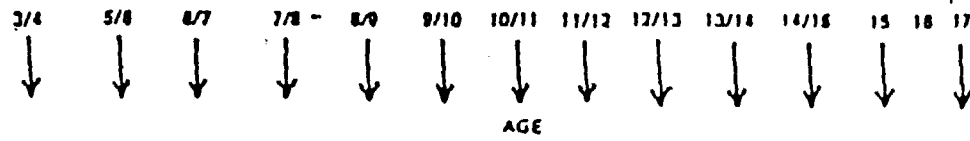
**HUMAN RESOURCES PROJECT**

**Supervision Schedule**

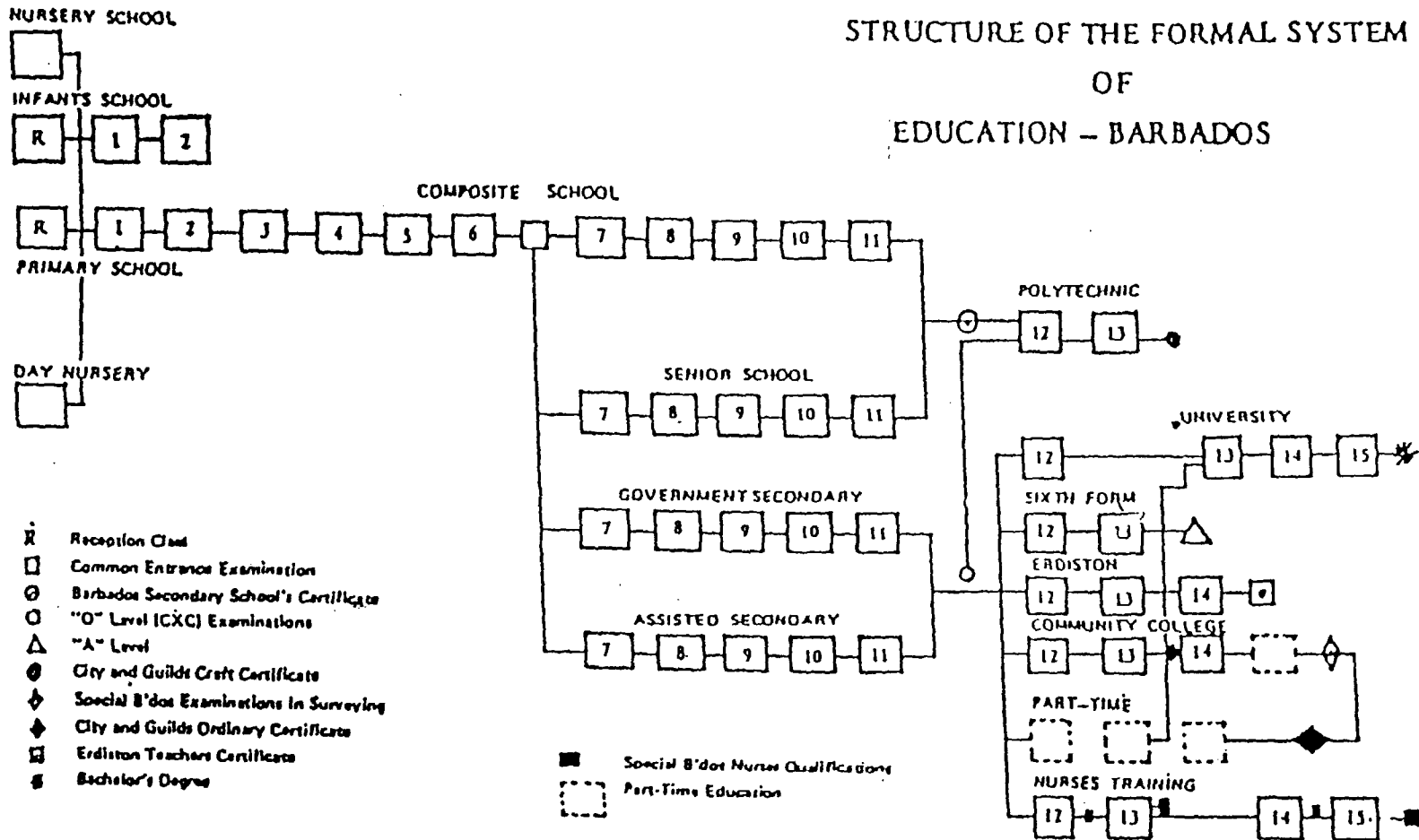
<b>Timing</b>	<b>Mission Composition</b>
January 1994	ML, GED
June 1994	ML, TED
January 1995	ML, TED, ETF
June 1995	ML, GED
January 1996	ML, TED, LAB
June 1996	ML, GED
January 1997 (mid-term)	ML, GED, TED, ECON, ETF
June 1997	ML, ARCH
January 1998	ML, TED, ETF
June 1998	ML, GED
January 1999	ML, TED, ETF
June 1999	ML, GED
January 2000	ML, TED
June 2000	ML, GED

**Abbreviations:**

- ML: Mission Leader**
- GED: General Educator**
- TED: Technical Educator**
- ECON: Economist**
- ARCH: Architect/Implementation Specialist**
- LAB: Labor Market Specialist**
- ETF: Employment & Training Fund Specialist**



## STRUCTURE OF THE FORMAL SYSTEM OF EDUCATION - BARBADOS



**Table 1: ECONOMIC ACTIVITY STATUS OF WORKING AGE POPULATION**  
(’000 PERSONS)

Age	Total Population			Total Labor Force			Employed			Unemployed		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-19	10.9	10.9	21.8	4.7	3.7	8.4	2.8	1.8	4.4	1.9	2.1	4.0
20-24	10.1	9.9	20.0	9.1	7.9	17.0	7.2	5.3	12.5	1.9	2.6	4.5
25-54	46.5	51.1	97.6	44.2	41.3	85.5	39.8	34.1	73.9	4.4	7.2	11.6
55-64	7.1	10.2	17.3	5.0	3.8	8.8	4.7	3.5	8.2	0.3	0.3	0.6
65 +	12.2	18.7	30.9	1.8	0.9	2.7	1.7	0.9	2.6	0.1	0.0	0.1
Total	86.8	100.8	187.6	64.8	57.6	122.4	56.1	45.3	101.4	8.6	12.4	20.9

Source: Statistical Service Labour Force Survey, 1991

**Table 2: DISTRIBUTION OF LABOR FORCE, BY EDUCATIONAL LEVEL**  
(’000 PERSONS)

Educational Level	Male	Female	Total
Primary	17.0	11.8	28.8
Secondary	33.9	29.4	63.3
University	4.5	4.1	8.6
Technical/Vocational	0.6	0.1	0.7
Other	0.0	0.0	0.0
Total	56.0	45.4	101.4

Source: Statistical Service Labour Force Survey, 1991

**Table 3: DISTRIBUTION OF LABOR FORCE BY OCCUPATIONAL CATEGORY**  
(000 PERSONS)

Occupational Category	Male	Female	Total
Professional & Technical	4.2	4.7	8.8
Administrative & Managerial	2.9	1.5	4.4
Clerical & Related	5.8	12.4	18.3
Sales	4.1	5.5	9.5
Service	10.0	13.3	23.3
Agriculture & Fishing	3.1	1.8	4.9
Production & Quarry	2.1	3.7	5.8
Skilled Craftsmen	7.1	0.7	7.7
Transportation	16.8	1.9	18.7
<b>Total</b>	<b>56.1</b>	<b>45.5</b>	<b>101.4</b>

Source: Statistical Service Labour Force Survey, 1991

**Table 4: REGISTRATIONS AND PLACEMENTS AT THE NATIONAL EMPLOYMENT BUREAU, 1989 - 1991**

Year	Local					Overseas					Grand Total
	Male		Female		Total	Male		Female		Total	
	- 25	25 +	- 25	25 +		- 25	25 +	- 25	25 +		
<b>Registration</b>											
1989	187	189	455	513	1344	350	213	179	207	949	2293
1990	788	1027	772	1379	3966	211	121	88	151	571	4537
1991	1037	2368	809	2279	6493	159	80	37	51	327	6820
<b>Placement *</b>											
1989	32	504	-	-	536	350	942	0	80	1372	1908
1990	39	503	-	-	542	277	631	0	85	993	1535
1991	30	434	-	-	464	211	611	0	32	854	1318
<b>Ratio of Placements to Registrations</b>											
1989	-	-	-	-	0.40	1.00	4.42	0.00	0.39	1.45	0.83
1990	-	-	-	-	0.14	1.31	5.21	0.00	0.56	1.74	0.34
1991	-	-	-	-	0.07	1.33	7.64	0.00	0.63	2.61	0.19

Source: National Employment Bureau

\* Data for local placement include both males and females.

**Table 5: BARBADOS: EDUCATION RECURRENT EXPENDITURES, 1991/92**  
(BDS\$ 000)

<u>Program and Sub-Program</u>	<u>Statutory</u>	<u>Non-Statutory</u>	<u>Goods and Services</u>	<u>Transfers</u>	<u>Total</u>
<b>Primary</b>	<b>47,444</b>	<b>21,502</b>	<b>3,205</b>		<b>72,152</b>
01. Pre-Primary	627	281	28		936
02. Primary and Composite	46,208	12,975	2,551		61,734
03. Special Schools					
04. School Meals Dept.	608	8,244	625		9,477
<b>Secondary</b>	<b>48,013</b>	<b>10,182</b>	<b>1,504</b>	<b>10,807</b>	<b>70,507</b>
01. Examinations			1,200	464	1,664
02. Transport of Pupils				2,000	2,000
03. Sixth Form Secondary	7,872	2,203	31	1,254	11,360
04. Other Secondary	40,141	7,978	23	4,183	52,325
05. Assisted Private Schools				2,905	2,905
06. Continuation Education - Young Adults			250		250
07. Industrial Schools					
08. Occupational Training (NTB)					
<b>Tertiary</b>	<b>3,592</b>	<b>2,097</b>	<b>800</b>	<b>35,394</b>	<b>41,884</b>
01. University of the West Indies				22,003	22,003
02. Barbados Community College				7,831	7,831
03. Higher Education Awards				3,350	3,350
04. Samuel Jackman Prescod Polytechnic	2,168	1,767		1,089	5,024
05. Other Institutions				1,000	1,000
06. Adult Education					
07. Teacher Training	1,424	329		120	1,873
08. Other Local Training			800		800
<b>Administration</b>	<b>5,099</b>	<b>778</b>	<b>615</b>	<b>83</b>	<b>6,577</b>
01. Gen. Management & Coord. Services	4,180	705	414	83	5,382
02. Audio Visual Aids Dept.	919	72	200		1,191
<b>TOTAL</b>	<b>104,150</b>	<b>34,559</b>	<b>6,124</b>	<b>46,285</b>	<b>191,121</b>

Note: Totals may not add due to rounding.

Source: Ministry of Finance and Economic Affairs and Ministry of Education

**Table 6: BARBADOS: EDUCATION RECURRENT EXPENDITURES, TOTAL NUMBER OF STUDENTS AND UNIT COSTS BY EDUCATION LEVEL, 1986/87 TO 1991/92**

	1986/87	1987/88	1988/89	1989/90	1990/91	1990/91
<b>Education Recurrent Expenditures</b>						
<b>by Expenditure Category (millions BDS\$)</b>						
Statutory	70.8	84.9	90.1	94.4	111.4	104.1
Non-Statutory	23.2	25.2	25.5	29.7	32.6	34.5
Goods and Services	8.7	9.5	9.0	12.3	11.8	6.1
Transfers	34.2	43.0	43.3	47.5	56.6	46.2
<b>TOTAL</b>	<b>137.0</b>	<b>162.7</b>	<b>168.1</b>	<b>184.0</b>	<b>212.5</b>	<b>191.1</b>
<b>Education Recurrent Expenditures</b>						
<b>by Education Level (millions BDS\$)</b>						
Primary	53.0	61.4	63.0	72.0	81.4	72.1
Secondary	49.5	60.4	65.3	64.2	74.9	70.5
Tertiary	29.4	35.3	33.9	41.9	49.2	41.8
Administration	4.8	5.5	5.7	5.8	6.9	6.5
<b>TOTAL</b>	<b>137.0</b>	<b>162.6</b>	<b>168.1</b>	<b>184.0</b>	<b>212.5</b>	<b>191.1</b>
<b>Total Number of Students</b>						
Primary	28,519	28,845	28,113	28,845	27,722	27,883
Secondary	21,164	21,185	21,169	21,156	21,042	21,222
Tertiary	5,892	5,740	5,616	6,161	6,651	
<b>TOTAL</b>	<b>55,575</b>	<b>55,770</b>	<b>54,898</b>	<b>56,162</b>	<b>55,415</b>	
<b>Unit Costs by Education Level (BDS\$)</b>						
Primary	1,859	2,129	2,243	2,498	2,940	2,588
Secondary	2,344	2,852	3,086	3,037	3,561	3,322
Tertiary	5,006	6,167	6,044	6,806	7,400	

Source: Ministry of Finance and Economic Affairs and Ministry of Education

**Table 7: PRIMARY AND SECONDARY SCHOOL  
ENROLLMENTS AND STUDENT/TEACHER RATIOS  
1979-2000**

<b>Year</b>	<b>Primary Enrollment</b>	<b>Secondary Enrollment</b>	<b>Primary S/T Ratio</b>	<b>Secondary S/T Ratio</b>
1979/80	34672	21014	24	21
	34036	22248	23	22
1981/82	33395	22448	22	20
	32061	21375	24	19
1983/84	30748	21375	23	19
	29392	21501	22	19
1985/86	28750	21230	20	20
	28519	21164	20	18
1987/88	28845	21185	19	18
	28113	21169	18	18
1989/90	28845	21156	18	18
	27722	21042	18	17
1991/92	27883	21222	19	18
	27858	21196	20	18
1993/94	28267	21131		
	27981	21312		
1995/96	27698	21434	23	19
	27418	21866		
1997/98	27140	22305		
	26866	22143		
1999/00	26594	21973	25	21

Source: Ministry of Education

