

# ACCESS, EQUITY AND PERFORMANCE

EDUCATION IN BARBADOS, GUYANA, JAMAICA AND TRINIDAD AND TOBAGO



Mun C. Tsang • Michelle Fryer • Gregorio Arevalo

**INTER-AMERICAN DEVELOPMENT BANK**

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## Table of Contents

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<b>Foreword</b> .....	<b>v</b>
<b>Chapter One.</b> Introduction .....	<b>1</b>
<b>Chapter Two.</b> Changing Contexts and Education Goals .....	<b>9</b>
<b>Chapter Three.</b> Education Issues and Responses .....	<b>21</b>
<b>Chapter Four.</b> Barbados .....	<b>51</b>
<b>Chapter Five.</b> Guyana .....	<b>73</b>
<b>Chapter Six.</b> Jamaica .....	<b>121</b>
<b>Chapter Seven.</b> Trinidad and Tobago .....	<b>161</b>
<b>Bibliography</b> .....	<b>181</b>

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the schools to the ministries in the four countries, were generous with the time they spent with the authors in the discussion of education issues. The book also benefited greatly from comments on earlier drafts by reviewers from the Inter-American Development Bank, ministries of education, scholars from the countries concerned, and representatives from other international agencies working in these countries.

## Foreword

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The Caribbean region faces a challenging international economic environment as it moves into the new millennium. Relatively small in size and population, many Caribbean nations are characterized by a well-educated labor force and a productive base that has been shifting from traditional agriculture toward a more service-oriented economy in tourism, informatics, and financial services—a trend that is expected to accelerate with time. Having made great strides toward achieving universal basic education, future economic expansion will require the transformation of national systems of education into learning cultures that are able to keep pace with economic and technological change.

To compete in an increasingly integrated global economy, Caribbean nations have developed articulated national development policies that recognize the importance of maximizing the productivity of their most important resource, their people. As a platform for economic expansion in the twenty-first century, many Caribbean nations are increasingly embracing knowledge-based and skill-intensive industries, where size, geography, and available capital are not the major factors affecting the country's ability to compete globally, but where a skilled workforce, capable of fueling diversification of the economy, is essential. Ultimately, investment in education will lead to the production of a better-educated workforce with a greater level of employable skills, and increased productivity and com-

petitiveness at the national, regional, and international levels.

Experience has shown that significant reforms in education policy and public financing are feasible; however, advocates of sector-wide investment strategies for improved performance outcomes must strike a balance between the demands for education and the scarcity of resources. *Access, Equity and Performance* focuses on the synergy between education policy and public financing strategies in the construction of national education systems. It examines in depth the commonalities and differences in education issues and institutional responses in four Caribbean nations—Barbados, Guyana, Jamaica, and Trinidad and Tobago. Because these four countries represent different levels of educational and national development, their experiences are relevant to the formulation of education strategies across the Caribbean region. They also constitute a good sample for identifying useful lessons and experiences to inform education policy and the equitable delivery of quality education services in an increasingly integrated, global context.

The book aims to provide guidance for the formulation of education policies for the twenty-first century in the Caribbean region. It is offered in the hope of stimulating further dialogue and reflection on strategic issues related to education financing and development performance. Based on an extensive review of sector and country-specific research conduct-

## FOREWORD

ed by the Bank between 1996 and 2001, the manuscript is very much the product of a team effort led by Michelle Fryer, and including Gregorio Arevalo and Mun C. Tsang. The book evolved through a process that combined an extensive review of Bank operational experience, scholarly literature, policy analysis, and economic research. It has benefited enormously from broad consultation with policy-

makers, opinion leaders, and representatives of civil society in Barbados, Guyana, Jamaica, and Trinidad and Tobago, and from discussions with other international agencies and peer reviewers both inside and outside the Bank. The contributions of these experts have been substantial, and the book has benefited greatly from the sharing of experiences and insights throughout the review process.

***Ciro De Falco***

*Manager, Region 3*

The background of the page is a grayscale photograph of a desk. In the bottom left corner, a portion of a calculator is visible, showing buttons for '8', '9', 'x', and '÷'. Several paper clips are scattered across the desk: two in the top left, one in the bottom right, and another partially visible on the right edge. A pencil lies diagonally across the middle of the page, pointing towards the top right.

## Chapter One

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# Introduction

The Caribbean region faces major education challenges in the twenty-first century. This book explores appropriate education policies and financing strategies for addressing these issues.

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The Caribbean region encompasses more than a dozen countries that are diverse in terms of physical size, population, language, ethnicity, culture, and level of economic development. For example, Jamaica, an island of 11,000 square kilometers, has about 2.5 million people, and Barbados, an island of 425 square kilometers, has only 260,000 people (World Bank 1999; Inter-American Development Bank 1998a). The competition among European powers during the period of colonialism in the past three centuries resulted in sections of the region that are distinctively British, French, Dutch, and Spanish in tradition. Successive waves of imported labor from different parts of the world during the seventeenth to nineteenth centuries drastically changed the racial and ethnic composition of Caribbean countries, with accompanying differences in religious and cultural practices.

Despite its diversity, the region's national development experiences reveal underlying similarities among the countries. These similarities include a common set of socioeconomic forces associated with colonialization by Europe; a history of plantation agriculture based on African slave labor; the practice of intraregional migration for commerce, employment, education, and marriage; and the desire for more regional cooperation (Lowenthal 1960; Comitas and Lowenthal 1973).

In the twenty-first century, countries in the Caribbean region and in other parts of the world will be confronted with economic, social, and political challenges that are interrelated and increasingly global. Economic production across countries will take place in a

global economy characterized by rapid changes in various industries, increased application of new technology in different domains of the production process, more free movement of capital across markets in different parts of the world, greater mobility of labor across countries within regional trading blocs, and more changes in the working career of the individual (World Bank 1999, 2000b; UNDP 1999).

In many countries today, particularly developing ones, poverty remains a significant problem (UNDP 1999; UNICEF 2000; World Bank 2001). Increased economic inequality between and within countries has accompanied global economic growth (Rodrik 1998; Inter-American Development Bank 1998a; UNDP 1999). In 1999, estimated per capita gross domestic product (GDP) ranged from \$850 in Guyana to \$8,550 in Barbados (table 1-1). Excessive inequality can be politically destabilizing within a country and can be a source of conflict among countries. This problematic situation is likely to be intensified in the coming years if no significant and strong interventions are undertaken. In addition, increased ethnic and religious conflicts and other fragmentation within countries in recent years have undermined efforts for socioeconomic progress. National development requires a foundation of political stability and democratization of decisionmaking at various levels (Manor 1999).

The economic, social, and political challenges for the Caribbean countries are even more apparent when domestic and historical conditions are taken into account. Given their small size and lack of diversified structure, the economies in the region are prone to eco-



**Table 1-1. Economic and Social Indicators for Barbados, Guyana, Jamaica and Trinidad and Tobago, 1999**

Indicator	Barbados	Guyana	Jamaica	Trinidad and Tobago
GDP per capita (US\$)	8,550	850	2,565	5,075
GDP growth (percent)	3.2	3.0	-0.4	5.1
Inflation rate (percent)	1.6	8.6	6.8	3.4
Unemployment rate (percent)	10.4	—	15.8	13.1
Total public sector debt (percentage of GDP)	57	301	144	43
Public external debt (percentage of GDP)	16	212	46	21
Population <sup>a</sup> (thousands)	250	800	2,500	1,350
Population growth rate, 1990s (average annual percent)	0.4	0.8	1.0	0.5
Poverty rate <sup>b</sup> (percent)	14	35	16	21 <sup>c</sup>
Population by ethnicity <sup>d</sup> (percent)				
African	—	32.7	91.4	39.6
East Indian	—	48.3	1.7	40.3
Others	—	19.0	6.9	20.1

— Not available.

<sup>a</sup> 1998 data.

<sup>b</sup> Percentage of population below the national poverty line.

<sup>c</sup> 1992 information.

<sup>d</sup> Information for 1991 for Guyana, 1990 for Trinidad and Tobago, and 1967 for Jamaica. Although precise information is not available, the great majority of the population in Barbados is of African descent. "Others" includes citizens from mixed ethnic backgrounds.

Source: Inter-American Development Bank data.

economic fluctuations induced by external disturbances. A number of these countries went through rather painful structural adjustment reforms in the late 1980s and the early 1990s, and the record of economic recovery has been mixed. The emergence of regional trading blocs and the competitive environment will exert increased pressure on these economies. Poverty is no less a problem in the Caribbean countries than in most other countries in the world. For example, in the English-speaking Caribbean countries, between 14 and 35 percent of the population still live in poverty. Without concerted and sustained intervention efforts in various domains, the poor will remain trapped in their dire condition (World Bank 2001). Studies have shown that substantial disparities exist among different population groups within Caribbean countries

(Inter-American Development Bank 1998a; World Bank 2001). For a number of the countries, democratic governance has a short history, democratic institutions are still weak, and social divisions are problematic.

## The Education Sector

National leaders and educators in the Caribbean Commonwealth generally agree that education plays an important role in national development, and that national development is a multifaceted, evolving process with socio-economic, political, and cultural dimensions. The emerging national development challenges in the new century will likely place changing demands on the direction of education development in the region. There is also

a common belief that educational change is inextricably linked to social change, and that the relationship between education and national development is bi-directional.

In Caribbean countries (as well as in most other countries), public spending on education constitutes one of the largest spending categories (at times the largest one) in total government expenditure. Nongovernmental sources—such as households, firms, and community organizations—also make significant expenditures on education. It is thus important to scrutinize the financing of education to ascertain whether resources are allocated and utilized efficiently to achieve the intended goals and objectives of the education sector, and whether adequate resources are available to support the effective implementation of education policies. New financing strategies may be necessary to support education policies intended to address the emerging development challenges.

Unfortunately, there are few detailed studies of education financing in Caribbean countries, especially those in the Caribbean Group for Cooperation in Economic Development (CGCED, consisting of Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago). Available analyses are generally obsolete or restricted to information on government spending on education (World Bank 1993).

This book originated in a study of education policies and financing strategies in four English-speaking Caribbean countries, namely, Barbados, Guyana, Jamaica, and Trinidad and Tobago. The book aims at informing education policies for the twenty-first century by identifying emerging development challenges and education issues, relevant education responses for addressing these challenges and

issues, and strategies for financing the education responses. Based on a comprehensive analysis of government and nongovernmental education resources and their utilization, it seeks to fill the knowledge gap about the financing of education in these countries.

To facilitate the study, the Inter-American Development Bank (IDB) funded the development of an education cost and financing model for each of the four countries to estimate the recurrent and capital costs of alternative education policies and to assess their financial feasibility. The model is a tool for policy simulation, project preparation, and education planning. The book provides a comparison of the findings from the four countries, identifies useful lessons for the Caribbean region as a whole, and outlines a framework for a Caribbean perspective on education in the twenty-first century. In short, based on the study of four English-speaking Caribbean countries, the book seeks to address three important questions for education development in the Caribbean region:

- What are the major issues in education in the emerging national and international contexts of the twenty-first century?
- Which education policies are most appropriate for resolving these issues?
- What strategies are most suited for financing the implementation of these policies?

## Methodology

The analysis is based on a multi-site, case-study approach (Yin 1992). Separate but similarly structured country studies were conducted in Barbados, Guyana, Jamaica, and Trinidad and Tobago. Each examines the following points:

- Historical development and defining features of the education system

- Structure and financing of education
- Critical issues in the education sector
- Emerging social challenges and major education goals
- Responses to critical issues and emerging challenges
- Financing strategies and options for supporting education development
- The government's plan in the short-to-medium term and the role of donor agencies.

Each case study undertakes three major analytical tasks. First, it studies the structure of expenditures and the sources of resources in the education sector. It analyzes the trend in the level of government spending on education over time, the distribution of government spending by level of education and by recurrent/capital categories, the unit costs and relative unit costs of education, household spending on education, and the amount and distribution of resources from government, nongovernmental, and external sources. The case study for each country explains how resources are mobilized and allocated and provides information about financing strategies.

Second, each case study examines the critical issues facing education in the country. The analysis covers the extent to which limited access, low quality, internal and external inefficiencies, and disparities and inequities are major issues in the education sector. It provides the necessary information for exploring education responses. Whenever data are available, analyses are disaggregated by gender, urban/rural population, income, ethnic group, and type of education institution.

Third, the analysis identifies responses to critical issues and financing strategies that support such responses. It provides the conceptual framework for understanding the government's education initiatives and the involvement of donor agencies in the short-to-medium term.

In general, information for the separate country case studies comes from the following sources:

- Primary data from surveys conducted by the authors
- Primary data from interviews of school personnel and government officials in several ministries
- Secondary data from government surveys
- Government documents and reports
- Documents and reports from international development agencies
- Published journal articles and books
- Consultations with local and external educators and scholars.

To the extent possible, the study tried to collect similar data across the four countries; however, the availability and recentness of data varied significantly. This limitation makes comparison of some information across the countries somewhat difficult. Nevertheless, the four countries share a number of significant similarities, particularly in terms of their economic, education, and cultural heritages; their geographical proximity and small population size; their membership in the Caribbean Community (CARICOM); and external challenges and constraints.

The multi-site case-study approach allows for a comparison of the cases that would not be possible in a single-site case study. The comparison facilitates the identification of patterns or relationships across the countries. The multi-site approach also enables a synthesis of findings across the four countries. For example, we attempt to explain commonalities and differences in education issues and responses across countries, and to identify useful lessons and experiences to inform education development in the Caribbean region and elsewhere. The book also identifies gaps in knowledge and presents an agenda for further inquiry.

**Table 1-2. Student Statistics by Education Level**

Indicator	Barbados (1996/97)	Guyana (1998/99)	Jamaica (1998/99)	Trinidad and Tobago (1996/97)
Early childhood Education <sup>a</sup>				
Enrollment	5,706	36,212 <sup>b</sup>	139,961	24,784
Percent female	49.8	49.2	50	49.5
Net enrollment rate (percent)	68	92 <sup>c</sup>	90	43
Primary education				
Enrollment	23,065	105,320 <sup>b</sup>	324,792	192,275 <sup>d</sup>
Percent female	49.1	49.1	49.3	49.2
Net enrollment rate (percent)	101	98 <sup>e</sup>	93	83 <sup>f</sup>
Secondary education				
Enrollment	23,556	61,916 <sup>b</sup>	235,330	107,992
Percent female	50.4	50.7	50.8	51.7
Net enrollment rate (percent)		53 <sup>e</sup>	<sup>g</sup>	
Tertiary education				
Enrollment	8,326	13,229	21,844	9,848 <sup>h</sup>
Percent female	38–65	62.9	51–65	

<sup>a</sup> Early childhood education is focused on children aged 3 and 4 in Barbados, Guyana, and Trinidad and Tobago, and on children aged 4 and 5 in Jamaica.

<sup>b</sup> Does not include students in private schools. Total private enrollment was 1 percent of total public enrollment at the nursery, primary, and secondary levels.

<sup>c</sup> 1992.

<sup>d</sup> Includes students in post-primary classes.

<sup>e</sup> 1997/98.

<sup>f</sup> 1998.

<sup>g</sup> The net enrollment rate is 83 percent in grades 7–9 and 46 percent in grades 10–11.

<sup>h</sup> Total enrollment in technical institutes, teachers' colleges, and the University of West Indies.

Source: Government education statistics.

Despite its appeal, the multi-site case-study approach does have its limitations. Because of limitations in time, financing, and other resources, it is impractical to conduct a large number of separate case studies. The findings are obviously influenced by the number and choice of countries.

## Structure of the Book

Part I discusses education responses and financing strategies for addressing emerging challenges in the region. Chapter two discusses the changing contexts for national development in the Caribbean, paying particular

attention to the emerging challenges for the education sector in the new century. Chapter three outlines the region's education responses and financing strategies and presents a framework for a regional perspective for education development. The framework contains a development vision for education, a set of strategies for realizing this vision, and a broad agenda for action in the sector.

The analyses of past and current patterns in education and national development in chapters two and three indicate that it is important to see the Caribbean countries as countries in transition with a distinctive past, and to recognize the diversity within each country. The separate country studies in part

II discuss the significant variations in socioeconomic and education conditions across the four English-speaking Caribbean countries (see tables 1-1 and 1-2). Chapters four through seven highlight the critical issues facing education development in each country, identify education responses to these issues, propose financing strategies and options, and discuss specific education projects and programs.

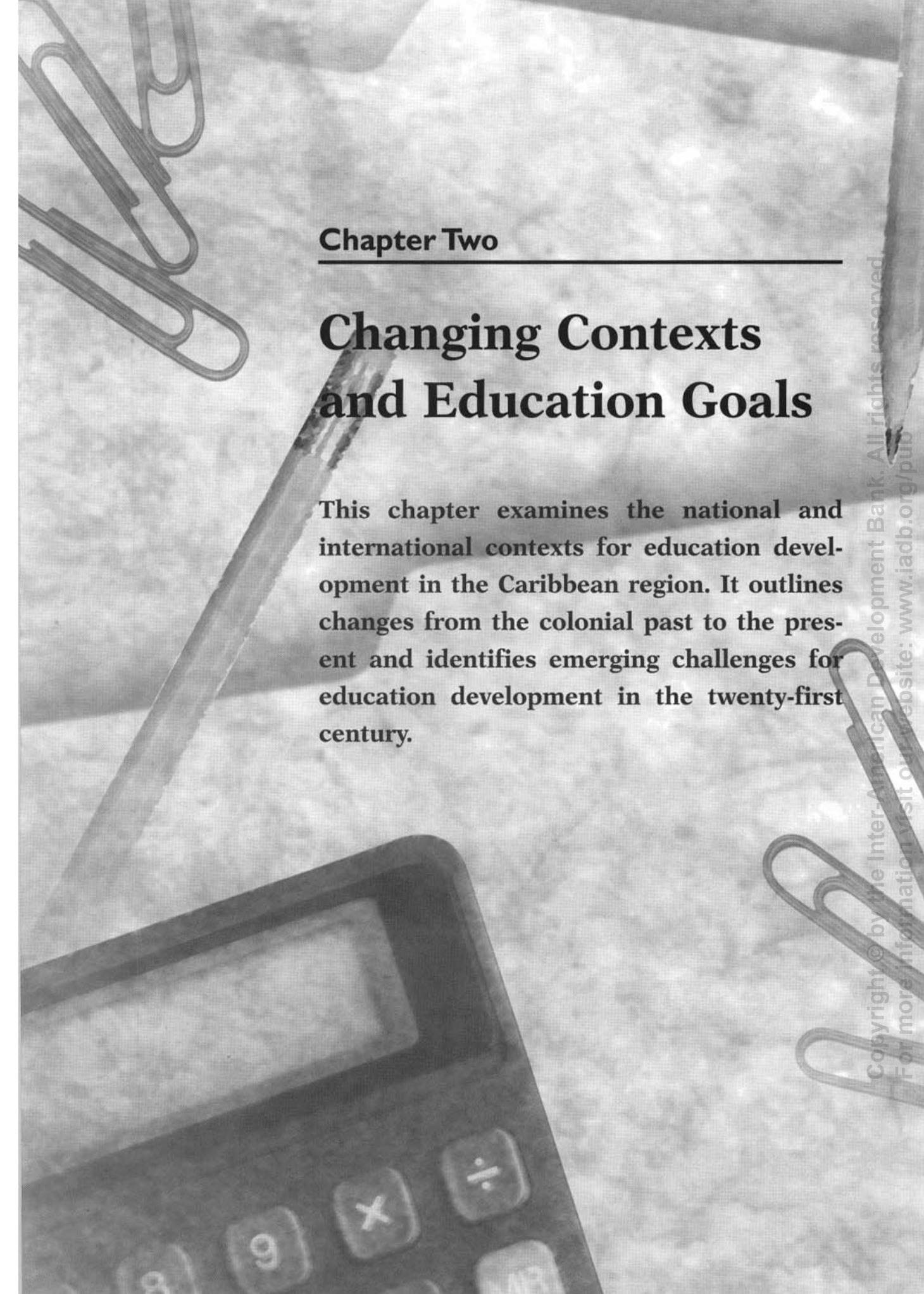
Among the four countries, Barbados has the highest level of per capita GDP, followed by Trinidad and Tobago, Jamaica, and Guyana. In 1999, the estimated per capita GDP in Barbados was 10 times as high as that of Guyana. The state of the national economy in 1999, as measured by the rate of economic growth, inflation, and unemployment, was the most favorable in Barbados and the least favorable in Guyana and Jamaica. However, Guyana's national economy was in much better shape in 1999 than it was in the early 1990s because it implemented an economic reform program. Barbados, Guyana, and Trinidad and Tobago experienced positive rates of economic growth in the past few years, while growth was stagnant in Jamaica. Guyana's debt burden is substantially higher than that of Jamaica, which has higher debt than Barbados and Trinidad and Tobago have. Macroeconomic conditions and the public debt burden affect government

revenue and spending, including government spending on education and external financing of education projects.

Although all four countries are small in terms of population size, Jamaica's population is 10 times as large as that of Barbados, and is growing faster than the other three countries. Guyana has the highest poverty rate among the four countries. Population growth and the poverty level affect the demand for social spending, including spending on education for various age groups. The average level of schooling is much higher in Barbados than in the other three countries. Thus, while access to secondary education is an important concern in Guyana, Jamaica, and Trinidad and Tobago, expanding access to higher education is a more prominent issue in Barbados.

Chapters four through seven present recommendations for education policies and financing strategies, indicating broad directions for educational change in the four countries. The book does not attempt to provide a detailed analysis of the design of specific interventions for implementing these policies and strategies. The study remains primarily at the sector and subsector levels. It does not examine the likely impact of education policies on or response from education institutions at various levels.





## **Chapter Two**

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# **Changing Contexts and Education Goals**

**This chapter examines the national and international contexts for education development in the Caribbean region. It outlines changes from the colonial past to the present and identifies emerging challenges for education development in the twenty-first century.**

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## National Development

Many of the salient characteristics of Caribbean societies and the important challenges these societies confront today can be traced to the unique character of the colonialization process during the three centuries before national independence (Comitas 1960). In the seventeenth century, European colonizers set up large sugar plantations, which were worked by millions of West African slaves. The practice of mercantilism was aimed at keeping the Caribbean colonies dependent on Europe; the colonies were to produce goods and markets for the mother country.

Abolition of the slave trade in 1807 and emancipation in 1833 impacted the labor force differently on each island. On islands such as Barbados and Antigua, where most of the arable land was already developed as sugar plantations, emancipation simply resulted in a change from slave labor to wage labor; there was no import of external labor. However, on islands such as Jamaica, many of the freed slaves migrated to the previously unsettled mountain interiors and subsequently formed a quasi-independent peasantry. To make up for the loss of freed slaves to the interior, indentured East Indian labor was brought to Jamaica and other islands (especially Trinidad). Thus, over time, multi-racial societies emerged on many of the islands.

Social stratification went hand in hand with racial differentiation. With a few exceptions, the island countries in the Caribbean were historically confronted with a number of enduring problems, including economic

domination by foreign powers, racial/ethnic stratification and stress, and dependence on expatriate culture. For many West Indians, the islands were not their home; home was on some distant European soil or elsewhere.

In more recent decades, the peoples of the Caribbean region have not only endured the history forced upon them, but have begun to make history of their own. Significant sociopolitical developments have taken place, particularly the successful transition from colonial rule to self-governance; the establishment of democratic, multi-racial states; the attempt to forge more regional cooperation; and an increasing sense of prideful identity. The black majority gained political power (Smith 1991). These sociopolitical changes took place despite the severe economic challenges facing countries in the region.

The 1980s were a time of severe economic difficulties and adjustment for Barbados, Guyana, Jamaica, and Trinidad and Tobago. These economic difficulties had already started in the 1970s for Jamaica and Guyana, mainly as a result of the oil price shock of 1973–74 and a prolonged period of economic mismanagement and overly statist policies in both countries. The 1970s were a period of boom and prosperity for the oil-and-gas-based economy of Trinidad and Tobago. However, the end of the oil price boom in the early 1980s drastically reduced Trinidad and Tobago's fiscal and export receipts, precipitating a severe economic crisis and forcing the government to adopt serious adjustment policies in the mid 1980s. Trinidad and Tobago's economic difficulties spilled over to several other Caribbean countries. In partic-

ular, the light manufacturing sector in Barbados suffered a severe blow with the reduction of its important Trinidad and Tobago market. For Barbados, this decline in manufacturing combined with the already depressed sugar and tourism sectors to produce rising fiscal deficits, higher inflation and unemployment, and depleted foreign exchange reserves.

By the late 1980s and early 1990s, all four countries had broadly similar International Monetary Fund-backed, market-oriented economic stabilization and structural adjustment programs in place. They were seeking to reduce and reorient the role of the state in the economy and to foster private sector development and investment. The World Bank and the Inter-American Development Bank also had policy-oriented, balance-of-payments programs in the region. These programs sought to restore fiscal, monetary, and external equilibrium through contractionary demand policies, with a strong element of tax reform and incentives to improve the environment for the resumption of domestic and foreign investment in productive activities.

The economic contraction resulting from these adjustment programs initially produced higher unemployment, rising interest rates, and, with the exception of Barbados, steep currency devaluations. These temporary effects caused serious political difficulties for the governments in power. Although they had succeeded in restoring macroeconomic stability by the mid 1990s, the antagonistic public reaction that ensued resulted in government changes at the first opportunity voters had to vent their discontent with the perceived adverse welfare impact. Nevertheless, despite these political party changes, the economic reform programs were basically maintained with little or no substantial modification. By the turn of the century, this staying on course eventually paid off in terms of improved macroeconomic performance, rising production and

incomes, lower unemployment, reduced poverty, and a much better development outlook than had been the case just a decade earlier.

The economic crisis and the resulting fiscal adjustment fell disproportionately on the central government capital budget, hence producing a severe contraction in resources available for investment in education, health, and other social infrastructure. In the education sector, this resulted in chronic underspending on school maintenance and rehabilitation activities and the deterioration of infrastructure at all levels throughout much of the 1980s and 1990s. In addition, in several countries this also resulted in greater overcrowding in some areas and the need to double-shift many schools at the primary and secondary levels.

## Education Development

Education development is an integral part of the national development process. It is not surprising that the education sector reflects or reinforces many of the forces affecting the larger society in the region. This is found to be the case especially in the islands of the West Indies, for which there are relatively more studies of education history than other parts of the region. These studies show the tortured path experienced by the education community and the origins of present-day features and challenges of the education system.

In the early days of colonialization, the European colonizers had little interest in fostering an educated society on the islands. They were interested in developing education outside the West Indies, not in creating an adequate system within (Figueroa 1971). There was a lack of university-trained settlers on the islands. Available information indicates that up to 1751 in the West Indies, only 69 men had been matriculated at Cambridge University (Figueroa 1971). A study of Jamaica

shows that during 1770–1820, fewer than five men per year went to study at Oxford University and Cambridge University (Brathwaite 1971).

The plantation owners also saw no need to bring education to slave laborers, whose children received some teaching from missionaries. The pervasive lack of interest in education development persisted until the Act of Emancipation was passed in 1833. For the British government, the Act led to the questions of who should be entrusted with the education of the children of the free laborers and who should pay for it. The Sterling Report (mentioned in Figueroa 1971), which came out in 1835, recommended that education be placed in the hands of religious bodies instead of legislatures (mainly representing the interests of plantation owners). The British government provided funding for the education of the former slaves in 1835–45; the funding source shifted to the colonial governments over time. The establishment of the Negro Education Grant was symbolic of the principle of popular education.

During the next 100 years, the Sterling Report was followed by a series of expert reports on the development of the education system in different parts of the West Indies, such as the 1869 Keenan Report on Trinidad, the 1875 Mitchinson Report on Barbados, the 1898 Lumb Report on Jamaica, the 1925 Report prepared by the Commissioner of Education for British Guyana, and the 1945 Irvine Report on Jamaica and a West Indies University. During this period, the education system expanded, especially at the primary level; the secondary subsector was still relatively small, and post-secondary education was even smaller. The University College of the West Indies was established in 1948 as a result of the Irvine Report.

Observers of education development in this period point out that the education system

was very much geared toward maintaining the colonial relationship and reproducing social stratification based on class, race/ethnicity, and gender (Williams 1973; Comitas 1960; Reddock 1996). For example, the curriculum in elementary and secondary schools was narrowly academic for the time; it did not reflect the needs of the majority of the population or distinguish the learning needs of urban and rural children. The British-influenced system was oriented toward examinations and was very selective in post-primary education. Secondary schools sent elite individuals to universities abroad and prepared a few students for civil service at home through externally certified examinations, such as the examinations at Oxford and Cambridge.

The black population generally had much lower enrollment and literacy rates; their schools were often staffed by untrained and low-paid student teachers. And since the early 1900s, the gender-based curriculum emphasized agriculture, woodworking, and similar trades for boys, and the preparation of “good wives and mothers” for girls. Recurrent criticism focused on textbooks that highlighted the achievements of the colonial masters, with insufficient attention to local history and features.

In more recent decades, especially after national independence in several Caribbean countries, a number of changes in education can be discerned. Education systems introduced certification examinations run by the Caribbean Examination Council as an alternative to external examinations. They also added local history to textbooks and developed a heightened sense of the educational needs of disadvantaged population groups.

In the context of severe economic conditions in the 1980s and early 1990s, the four countries in this study struggled to develop their education systems. With universal primary education essentially achieved, much of the social demand for education was directed

at the secondary and tertiary levels. Under tight budgetary constraints, the education systems managed to achieve quantitative gains in access to post-primary education, but at the cost of declining quality. The underfunding of education and declining quality were most visible in Guyana. Large disparities in education persist, particularly in Guayana, Jamaica, and Trinidad and Tobago. Inefficiency in education spending is an issue in all four countries, despite their tight education budgets.

## Emerging Challenges for National Development

A number of the emerging challenges and constraints confronting countries in the region are likely to have strong implications for national development and education policies. These challenges and constraints can be grouped into three categories: pertaining to the global environment, related to developing nations, and confined to the region itself.

In the 1990s and beyond, the global context for national and education development is increasingly characterized by the unchallenged dominance of market capitalism, economic competition based on technology and knowledge, greater flow of diverse population groups within and across national boundaries, increased pressure for trade liberalization, the popularity of democratization in political governance, and concern about sustainable development (Braveboy-Wagner 1997; World Bank 1992, 1996c, 2000b; Thurow 1997; Inter-American Development Bank 1997b).

There is widespread consensus among policymakers and analysts alike about fundamental changes in the nature and operation of the market economy in a global context (OECD 1996; Alexander 1996; European Commission 1995). These changes include:

- An “intensive knowledge” or “information” economy increasingly based on the pervasive application of knowledge and information
- Firms increasingly geared toward “diversified quality production” characterized by more short-cycle production of goods and services of high quality that meet the diversified demands of customers
- More competition among firms in a global economic environment
- Technology, particularly information technology, as one of the central driving forces behind economic transformation and competitiveness.

In response to these fundamental economic changes, firms in many advanced industrial countries have undertaken two successive approaches in transforming their production process since the 1980s (European Commission 1995). The first is a technology-centered approach that strengthens the application of computer-aided technologies and their integration in firm networks. The implementation of these computer systems is often based on a top-down approach. A more radical change in the organization of work characterizes the second approach, which moves the decisionmaking process downward, increasing the degree of autonomy for workers and focusing more on the diverse needs of customers.

Changes in the firm and in the larger economy have profound implications for the skills or competencies required of employees. In the modern workplace, employee competencies have shifted as a result of technological and organizational changes. Table 2–1 provides examples of the shift. Education and training institutions have to identify—and current and future members of the workforce have to acquire—a new set of core competencies. Technological competence is a key part of the core competencies in the modern workplace operating in the global context. The ac-

**Table 2-1. The Shift in Workplace Competencies**

Skill	Old competencies	New competencies
Responsibility	Based on behavior (effort and discipline)	Based on taking initiatives
Expertise	Related to experience	Cognitive (identify and solve problems)
Interdependence	Sequential	Systematic (group working)
Training	Acquired once and for all	Continuous
Learning	Passive learning (being trained)	Self-learning (responsible for own learning)

Source: European Commission (1995: 8).

quisition of technological competence will become an increasingly important task of the education and training system.

The advent of the information age and other international developments are reshaping the role of the state, transcending national boundaries, and elevating the transnational nature of economics, politics, and personal networks. An increasing flow of diverse population groups moves within and across countries. A recent study in the United States and Japan emphasizes the importance of developing transnational competence in a fast-changing world characterized by diverse people and values (Task Force for Transnational Competence 1997).

The increased pressure for trade liberalization will have a significant impact on the economy and the education sector. More free trade means that governments across the world will be less able to protect inefficient industries. It also means that workers in these industries will be more exposed to competition from foreign workers. The productive sector will likely face continuous demand for restructuring, and workers will have to be prepared to leave their old jobs and enter new ones. Palmer (1997) suggests likely restructuring in the sugar and textile industries in the West Indies as a result of Mexico's accession to the North American Free Trade Area. Thus, the West Indian countries are under increasing

pressure to develop a strategic response in their productive sectors and a coordinated response in their education and training systems.

The emerging changes in the global environment are not confined to the economic arena; they are equally evident in the political arena, particularly in the democratization movement. The collapse of communism and the breakup of the Soviet Union gave impetus to the development of democratic institutions and processes in Eastern European countries and elsewhere. Racial and ethnic conflicts in many parts of the world raise demand for a democratic process to peacefully resolve conflict and for stronger social institutions that promote consensus building and the inculcation of a common core of social values.

The financial crisis in some Asian countries in the past several years has strengthened the view that economic development without accompanying political reform will not lead to sustainable and broad-based national development. Education is increasingly seen as the institution for socializing individuals for democratic participation, for preparing leaders for democracy, and for nation building based on democratic principles (Fagerlind and Saha 1989). However, threats to democratization include the privatization of politics, the reliance on opinions of experts and consultants, the increasing involvement of nongovernmental organizations that have their own agendas and



motives, and the influence of major international development agencies (McGinn 1996; Cahn 1993).

These global political-economic changes influence developing countries, including those in the Caribbean region. In addition, developing countries have to deal with constraints arising from their changing relationship with advanced industrial countries. With a shifting focus toward more growth instead of more equal distribution, as well as insistence on self-help through internal adjustment, advanced industrial countries are less inclined to provide external aid simply on the grounds of social justice and equity (Bujazan and others 1987; Braveboy-Wagner 1997). The collapse of communism has also resulted in increasing competition among developing countries for limited external aid (Windham 1995).

These constraints imply that developing countries should develop policies that are less dependent on external resources and that make more efficient use of available resources, domestic and external. Poverty and socioeconomic inequality are persistent problems for many countries, particularly for developing ones. A significant proportion of the populations in these countries is highly marginalized, and misses out on the dynamic and prosperous aspects of the global economy. Inequality between and within nations has widened over the past 15 to 20 years. The urban problem remains acute. Many urban areas are besieged with poverty, marginalization, and divisive socioeconomic dualism (Emmerij 1997).

Furthermore, Caribbean countries have to confront their small size (and thus lack of economies of scale) and fledgling democracies. Although prior efforts to forge more economic cooperation in the region have not been effective, the need for larger markets and more regional cooperation continues.

Despite their significant differences in aspects such as size, income, and poverty levels,

the Caribbean countries share many characteristics and face similar opportunities and risks. Economic growth is likely to remain strong in Barbados, Guyana, and Trinidad and Tobago because of continued strong external demand from export markets, higher prices for key export commodities, and new investments in the energy, forestry, and tourism sectors.

However, because of its relatively greater openness and the concentration of exports in a few goods and services, the region remains more vulnerable than most to external shocks. In addition, these countries remain vulnerable to various types of natural disasters, such as floods, hurricanes, volcanic activity, and landslides. Finally, some of the region's key agricultural exports (sugar, rice, and bananas) will remain economically viable only if they keep their preferential access to European Union markets, a favorable treatment which is likely to be greatly eroded in the coming years as global trade liberalization deepens.

Therefore, the region will need to improve its competitiveness, reduce direct state intervention in productive activities, attract new private investment, and continue its efforts to diversify economic activities in order to deal with its inherent vulnerabilities. At the same time, it must ensure that the macroeconomic policy framework remains sound (particularly on the fiscal side) and domestic financial systems continue to develop and strengthen through greater competition, better supervision, and clear regulation.

In short, the Caribbean countries face five major challenges for national development policy:

- Enhancing economic competitiveness in a technology-driven, fast-changing, global environment
- Improving the well-being of the most disadvantaged or vulnerable population groups
- Strengthening democratic institutions and processes

- Promoting racial/ethnic harmony and social justice
- Strengthening regional cooperation and prideful identity among peoples in the region.

## Emerging Challenges for Education and Training

The multidimensional and interrelated nature of the emerging challenges faced by Caribbean societies means that the demands placed on the education and training system in this region are necessarily varied and related as well. The education and training system will become an increasingly important part of the overall effort to teach skills and to contribute to national development objectives.

To raise labor productivity in the changing workplace and to enhance economic competitiveness, education institutions in the Caribbean region have to identify and teach an emerging set of core competencies. Although there are alternative ways to classify the emerging key or core competencies for the workplace of the twenty-first century, the European Commission (1995) proposes a comprehensive and useful scheme based on four categories:

- **Technical competencies.** The mastery of electronic data processing and related systems, computerized planning, process, control, and networks.
- **Methodological competencies.** Cognitive ability to perform proactive mental modeling of production processes using computers.
- **Social competencies.** The ability to work effectively in a group setting and communicate through multiple means.
- **Behavioral competencies.** Having self-initiative; accepting self-responsibility, appropriate work ethics, and attitudes; and being flexible and creative.

According to the report of the European Commission, these four categories of employee competencies are interconnected and constitute important prerequisites for finding and keeping a job in the European economies. Obviously, there is a question about whether these core competencies apply to employees in less developed countries. Modification or alternative conception to fit the specific context of a given country may be necessary. Nevertheless, in a global economy dominated by the advanced industrial countries, skill development in the advanced industrial countries will likely affect skill development in the less developed countries.

Since technological competence is a key part of the core competencies in the modern workplace, the acquisition of technological competence will become an increasingly important task of the education and training system. In fact, in recent years, educators and politicians alike in many countries have called for the development of *technological literacy* and standards in the school curriculum (Layton 1994a, 1994b; Beynon and Mackay 1992). The technological literacy slogan has enabled the development of technology education as part of general education in schools. However, vagueness and even divergent views characterize the concept of technological literacy (Lewis and Gagel 1992).

Changes in the firm and in the economy have influenced much of the discussion about core and technological competencies; thus, technological literacy has been defined as the skills and abilities to perform effectively in a technology-driven workplace. By contrast, defenders of participatory democracy and liberal education point out the pervasiveness of the impact of technology on all aspects of human activities, not just on work. For them, the issues of the control of the development of technology and the purpose of technological development are critical, and technology education should



promote a technologically literate citizenry in a democratic society. Educators believe that students should ask “why” and “how” about technology, in addition to simply knowing about technology. Other participants are concerned about the impact of technology on the environment and other aspects of sustainable development (Layton 1994b). Thus, technological literacy and technology education in school often mean different things to different people.

Despite some vagueness about the meaning of technological literacy, the following list identifies the skills and abilities commonly discussed:

- Ability to work with common materials, both natural and synthetic
- Ability to identify problems and change or improve current technological designs
- Ability to propose designs and choose between alternative technological solutions
- Ability to communicate problems, processes, and solutions
- Understanding of the reciprocal relationship between technological development and socioeconomic and political development in the larger society
- Understanding of the relationship between technological development and sustainable human development.

The divergent views on technological literacy parallel alternative approaches to curriculum development of technology education in primary and secondary schools (Foster and Wright 1996; Blandow and Dyrenfurth 1994; Tsang 1998b). For example, technology programs might focus on the following:

- Teaching technically oriented skills (such as the modular approach for middle schools and the “tech-prep” program in high schools)
- Offering an integrative approach involving multiple school subjects (such as math/

science/technology or science/technology/society integration)

- Providing alternative programmatic orientation (such as student-centered programs to promote self-awareness and self-worth, and a sociocultural approach to promote a liberal arts focus)
- Emphasizing alternative types of skill development (such as problem solving and process-driven technological design).

In addition to core and technological competencies, education and training institutions will also be important sites for acquiring *transnational competencies*. These competencies can enhance an individual’s capacity to communicate effectively with people from diverse cultures and backgrounds. They may include, for the example, the following (Task Force for Transnational Competence 1997):

- Ability to imagine, analyze, and creatively address the potential of local economies/cultures
- Knowledge of commercial/technical/cultural developments in a variety of locales
- Awareness of key leaders (and ability to engage such leaders in useful dialogue)
- Understanding of local customs and negotiating strategies
- Facility in English and at least one other major language, and facility with computers
- Technical skills in business, law, public affairs, and/or technology, and awareness of how they differ in different cultural contexts.

In addition to the acquisition of work-related skills, education institutions have an important role to play in promoting political and social development in this region because of its relatively fragile democracies and multiracial tensions. Through an appropriate civic education curriculum, students from different backgrounds can learn to share common core values

and to be tolerant of differences. Individuals can be socialized to accept democratic institutions and processes (Torney-Purta and Schwille 1986; Braungart and Braungart 1994). Education is also an important institution for preparing leaders in different walks of life, including political ones (Fagerlind and Saha 1989).

However, a word of caution is in order about the potential of education for broad-based political and social development. Studies show that the education system is often linked to social stratification, that students learn facts about democracy but they do not necessarily experience democracy within the education process, and that civics classes focus more on moral education than civics education (McGinn 1996). The education system has to be harnessed to promote democratization and social harmony.

## **The Caribbean Vision of the Future and the Ideal Person**

Leaders of the Caribbean countries periodically get together to explore a common approach

to address the emerging challenges in the region. A recent meeting of government leaders held in Barbados produced a report on the Caribbean vision of the future and the ideal Caribbean person (Caribbean Community Secretariat 1997). According to this report, the future of the Caribbean depends on a development process that will enable the population to enjoy a good quality of life that satisfies basic needs without endangering the continued existence of a healthy environment.

The “ideal Caribbean person” should possess desirable individual and social attributes and orientations. For example, the person should have multiple literacies, critical thinking and problem-solving skills, a positive work ethic, self-confidence and self-esteem, and respect for life. The person should have socially oriented moral values; be willing to contribute to the community and country; and appreciate and respect ethnic, religious, gender, and other diversity. For these government leaders, education has an important role to play in both the development of the ideal person and the future of the Caribbean region.

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## **Chapter Three**

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# **Education Issues and Responses**

The case studies of the four English-speaking Caribbean countries yield findings in four areas: historical and socioeconomic context; education expenditures and financing; critical issues and country experiences; and financing strategies. This chapter highlights similarities and differences among the four countries and summarizes the key lessons learned from the case studies. This information provides a framework for a regional perspective for education development and the role of donor agencies.

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## Historical and Socioeconomic Context

Perhaps the most important common historical heritage shared by Barbados, Guyana, Jamaica, and Trinidad and Tobago is that they were all under British colonial rule for an extended period of time before they gained national independence in the 1960s. Colonialism left the legacy of a common language, a British-style civil service system, and a population with a significant proportion of people of African descent. These common features, plus geographical proximity and small population size, prompted these four countries and several other countries in the region to form the Caribbean Community (CARICOM). CARICOM promotes regional cooperation and self-reliance among member states in three areas: economic integration, functional cooperation and operation of common services (including education), and coordination of foreign policy (Hall and Blake 1981).

British colonial rule left similar marks on the education systems in the four countries. During the colonial period, the education system was an integral part of the social mechanism for maintaining and perpetuating colonial rule. The system effected a dependency relationship through tight control of the school curriculum, selection through a competitive examination system, and linkages with elite education institutions in the colonial center. Differentiation in curriculum and type of education institutions contributed to social stratification in the past and continues in the present.

Historically, a policy of equal access to schooling based on gender has been associat-

ed with equal representation of male and female students in the education system. In fact, female students have a numerical advantage in general secondary education and university education in these countries. However, unequal access to knowledge in the form of differential enrollment by subject or discipline appeared early in the development of the education system and persists today.

Significant differences characterize the historical development of the education system in the four countries, particularly with respect to the involvement of the church and the role of the state. In Jamaica and Trinidad and Tobago, religious bodies have provided schooling since the colonial period. At the time of national independence, the new governments assured religious bodies of their continued ownership and control of denominational schools. These schools have a substantial presence in basic education and are often among the best schools in the country. People accept that government and nongovernmental bodies are partners in education.

By contrast, religious organizations have little involvement in schooling in Barbados and in Guyana. In Barbados, the government is the dominant provider of schooling; enrollment in private schools accounts for less than 10 percent of total enrollment in pre-primary, primary, and secondary education. In Guyana, the government provides schooling at all levels. The strong historical involvement of the state has important implications for education financing. For example, the government of Barbados has been reluctant to adopt a cost-recovery policy for university education

in the face of strong pressure to expand access to education at that level. The government's policy is to provide free education at all levels. Adopting cost recovery in university education would be politically unpopular.

In Guyana, the reliance on government financing and provision of education is related to socialist rule in past decades. Given the dire economic situation and limited government revenue, the scarce government resources for education stretch thinly across education levels. Underfinancing of education was an important contributing factor to low education quality in this country during the 1980s and much of the 1990s. Government spending on education increased substantially only in the second half of the 1990s.

The four countries will confront similar economic changes and education implications in the coming decades. Globalization of economic production powered by rapid technological change requires that the labor force be equipped with a range of core technological and transnational competencies. Yet, to varying degrees, economic inequality and poverty remain significant concerns in these countries. The education and training systems have to provide quality basic education to enable citizens from all backgrounds to fully participate in national development, operate efficiently so as to maximize education outcomes given scarce resources, and be flexible in structure so as to respond to ever-changing demands.

Economic restructuring and the development of regional trading blocs exert competitive pressure on industry in Caribbean countries. They need to develop a strategic response in the productive sector and a coordinated response in education and training systems. The Caribbean Examination Council and the University of West Indies are two significant examples of cooperation in education, providing a good foundation on which to foster further cooperation.

However, the four countries differ in some important aspects that may call for different specific education responses and may put constraints on the education and training systems. In terms of per capita gross domestic product (GDP), Guyana is the poorest among the four countries. Its economy is highly dependent on the primary productive sector, particularly mining and forestry. The socialist government during much of the post-independence era was associated with low economic performance. Recently, the country has made an effort to privatize economic production and lessen the role of the government in different aspects of national life. It needs to strengthen the partnership role of nongovernmental bodies in various sectors, including education. The government's debt burden and the historically weak financial foundation of the education system make the effort to improve the education and training system especially challenging.

The per capita GDP of Barbados is about 10 times that of Guyana. The economy of Barbados is focused on the tertiary sector, particularly tourism and other service-related industries. The country's revenue base has enabled it to provide strong support for government investment in education, as measured by both the national-effort and fiscal-effort indicators. A functioning democracy and a relatively efficient government provide a stable political environment for the development of education and other sectors.

Trinidad and Tobago and Jamaica fall between Guyana and Barbados in terms of per capita GDP and in terms of their fiscal support for education. They also have larger and more diverse populations. Trinidad and Tobago is the most industrial of the four countries and depends on the oil industry. Agriculture, manufacturing, and service industries are all important in the economy of Jamaica. Compared with Guyana and Barbados, Trinidad and



**Table 3-1. Indicators of Education Spending in Selected Countries in the Caribbean and South America, and the OECD Average, 1997**

Country	Fiscal effort (percent)	National effort (percent)	Recurrent expenditure <sup>a</sup> (percentage of total)	Relative unit cost (primary = 1)	
				Secondary	Tertiary
<i>Caribbean</i>					
Barbados	16.5	5.8	88	1.5	2.9
Guyana	10.8	3.9	69	1.7 <sup>b</sup>	18.1 <sup>b</sup>
Jamaica	10.8	5.8	93	2.4 <sup>c</sup>	15.5 <sup>c</sup>
Trinidad and Tobago <sup>d</sup>	12.4	4.4	91	1.2	13.8
<i>South America</i>					
Argentina	13.9	3.7	92	1.3	9.4
Brazil	16.9	4.8 <sup>d</sup>	93	1.2	12.6
Chile	15.9	3.2	94	1.1	4.1
Mexico	16.6 <sup>e</sup>	4.5	93	1.8	4.8
Paraguay	19.1	3.7	93	1.4	40.0
Uruguay	11.8	2.6	94	1.3	2.5
Average	15.7	3.8	93	1.4	12.2
OECD average	14.0	5.2	91	1.4	2.2

<sup>a</sup> Recurrent expenditure as a percentage of total expenditure refers to all levels of education for Caribbean countries, and to all levels of education except tertiary for OECD and South American countries.

<sup>b</sup> 1994.

<sup>c</sup> 1995.

<sup>d</sup> 1996.

<sup>e</sup> 1990.

Source: For information on OECD and South American countries, OECD (2000: 54, 59, 94, and 103).

Tobago and Jamaica have more diverse and fragmented schooling systems. Race relations have a more visible effect on national life in Trinidad and Tobago than in Jamaica, but social violence is more prominent in Jamaica than in Trinidad and Tobago. As shown in the case studies, the private sector is more involved in education and training in Trinidad and Tobago and Jamaica than in the other two countries.

## Education Expenditures and Financing

The four countries derive public resources for education from tax and nontax revenue of the central government, and they allocate the great

majority of such resources through the budget of the central ministry of education. Using expenditure by the Ministry of Education as a measure, the countries differ significantly in their public spending effort on education. In terms of both the national-effort and fiscal-effort indicators during much of the 1990s, Barbados had the greatest public effort and Guyana had the least (see table 3-1). The spending effort in Barbados compares favorably with OECD and South American countries (see table 3-1). Although Guyana's national-effort and fiscal-effort indicators were low in the early 1990s, the country spent substantially more on education in the latter part of the 1990s due to improved economic conditions, debt relief, and stronger government commit-

**Table 3-2. Public Financing of Education in Barbados, Guyana, Jamaica, and Trinidad and Tobago**

Indicator	Barbados	Guyana	Jamaica	Trinidad and Tobago
Expenditure by Ministry of Education as a percentage of GDP <sup>a</sup>	5.9	3.2	5.0	4.1
Expenditure by Ministry of Education as a percentage of total government expenditure <sup>a</sup>	16.7	6.8	11.5	11.2
Nominal growth rate in expenditure by the Ministry of Education, 1990s (percent)	5.3	44.6	42.1	7.9
Real growth rate in expenditure by the Ministry of Education, 1990s (percent)	2.1	0.5	5.3	0.9
Recurrent expenditure as a percentage of total expenditure by the Ministry of Education <sup>a</sup>	90.3	86.4	91.3	92.7
Unit cost of secondary education to unit cost of primary education <sup>b</sup> (ratio)	1.2	1.7	2.4	1.2
Unit cost of tertiary education to unit cost of primary education <sup>b</sup> (ratio)	2.7	18.1	15.5	13.8

<sup>a</sup> The average refers to 1992–97 in Barbados, 1991–97 in Guyana, 1991–97 in Jamaica, and 1991–96 in Trinidad and Tobago.

<sup>b</sup> Unit costs refer to total government expenditure per student by education level in 1995 for Barbados, Jamaica, and Trinidad and Tobago. For Guyana, unit costs refer to government current expenditure per student by education level in 1994.

ment to education. In fact, for 1997–99, Guyana's government education expenditure averaged about 5.2 percent of GDP and 13.3 percent of total government spending. According to Government of Guyana 2000, expenditures on education are expected to further increase from present levels to an average of 8.4 percent of GDP for 2000–2005, or approximately 20 percent of total government spending by 2005. The state has a dominant presence in the provision of schooling in both Barbados and Guyana; nongovernmental bodies have a significant presence in Jamaica and Trinidad and Tobago. This study shows that dominant government presence does not necessarily imply high (or low) public spending effort.

Public spending on education has changed significantly over time in the four countries. Compared with Guyana and Jamaica, Barbados and Trinidad and Tobago have had a relatively more stable spending trend. This could be attributed to the relatively more stable economy and government revenue for the latter two coun-

tries. From the perspective of key stakeholders in education, it is encouraging to see that public spending on education was on a rising trend in the 1990s in Guyana, Jamaica, and Trinidad and Tobago. This pattern shows that the respective governments endured the difficult economic circumstances in the late 1980s and early 1990s, and were willing to increase spending on education.

A comparison of nominal and real expenditure on education indicates a large gap between them in all four countries. For example, nominal expenditure increased by 44.6 percent per year in Guyana and by 42.1 percent per year in Jamaica, but real expenditure increased only by 0.5 and 5.3 percent, respectively, in the two countries (table 3-2). Although it had a lower nominal growth rate than Trinidad and Tobago, Barbados actually had a higher real growth rate. Nominal growth rates can be misleading in countries with historically high rates of inflation, such as Guyana and Jamaica. Table 3-2 shows that Ja-

maica had the most impressive real gain in public spending on education among the four countries, while it did not change much in Guyana and Trinidad and Tobago. And because of changing enrollment, per student real expenditure declined in some levels of education in these countries in the 1990s.

The four countries differ to some extent in the utilization of resources within the education sector. For example, Guyana devoted relatively fewer resources to recurrent education inputs compared with the other three countries. In terms of recurrent expenditure as a percentage of total expenditure, Barbados, Jamaica, and Trinidad and Tobago are similar to other South American and OECD countries (see table 3-1).

A comparison of unit cost by education level indicates that the spending pattern across education levels in Barbados is more similar to OECD countries than to the other three Caribbean countries (see table 3-1). For Guyana, Jamaica, and Trinidad and Tobago, the government's per student spending on tertiary education is greater than that for secondary and primary education. This pattern is similar to the average for several South American countries; however, these countries have a large variation in the relative unit cost of tertiary education (see table 3-1).

The government is not the only source of resources for education. In all four countries, households make important contributions to the education sector. For example, household spending on education as a proportion of total spending on education was 22 percent in Jamaica in 1996, 22 percent in Guyana in 1995, and about 30 percent in Trinidad and Tobago in 1991. Private demand for education is strong in all four countries, and parents in general are willing to invest in their children's education. This parent support is a national asset and should not be taken for granted. Government decisionmakers and educators must continue to

work with parents and cultivate their support for education.

Information from the four countries shows that, because of varying capacities, household spending on education is a significant source of inequality among households. Other countries show a similar trend (Tsang 1995). Thus, in mobilizing private resources, the government could face a dilemma between additional resources for education and increased education inequality. One way to resolve this dilemma would be to combine resource mobilization from households with increased government spending targeted at disadvantaged population groups (Tsang and Kidchanapanich 1992).

In addition to households, employers can be a significant source of funding, particularly for vocational-technical training. For example, employer financing accounts for 6.9 percent of total resources for education and training in Jamaica and 7.4 percent in Guyana. Finally, resources from multilateral and bilateral agencies are also used in the education sector. However, the importance of external resources varies significantly across the four countries because of the different amounts of external aid related to per capita GDP. For example, external resources account for 14.3 percent of total resources for education and training in Guyana and 2.5 percent in Jamaica.

In short, the four countries exhibit some marked differences in the pattern of the financing of education from government, household, and external sources. In relative terms, Jamaica and Trinidad and Tobago are more similar to each other and more different from Barbados and Guyana. Given that the per capita GDP of Barbados is 10 times that of Guyana, it is not surprising that Barbados and Guyana have very different spending patterns. Thus, in exploring the financing possibilities for these countries, it is important to recognize their unique country contexts over time.

**Table 3-3. Summary of Critical Issues in Education**

Issue	Barbados	Guyana	Jamaica	Trinidad and Tobago
<i>Low education quality</i>				
Concern about quality	X	X	X	X
Untrained teachers		X	X	X
Lack of learning materials		X		X
Inadequate physical facilities		X		X
Low teacher morale	X			X
Teacher-centered pedagogy	X	X	X	X
Weak institutional capacity		X		
Unsatisfactory performance in secondary entrance examination	X	X	X	X
Unsatisfactory performance on CXC <sup>a</sup>	X	X	X	X
Lack of continuous student assessment				X
Uneven teacher deployment			X	
Deviant student behavior	X			
<i>Education disparities</i>				
Disparity by income	X	X	X	X
Geographical disparity		X	X	X
Disparity by race/ethnicity		X		X
Lower performance of boys			X	
Higher female participation in local and regional tertiary institutions	X	X	X	
Gender differences in access to knowledge	X	X	X	X
<i>Inefficiencies in education</i>				
Irregular student attendance		X	X	
Teacher absenteeism		X	X	
Underutilization of capacity in tertiary education	X	X	X	
Wastage in post-primary classes				X
Inefficiency of secondary vocational-technical education	X	X	X	X
High unit cost of tertiary institutions			X	
Duplication and fragmentation in tertiary education	X		X	
<i>Limited education access</i>				
Early childhood education				X
Secondary education		X	X	X
Tertiary education	X	X	X	X

<sup>a</sup> The CXC is the Caribbean Examination Council examination.

Note: An "X" indicates presence of the problem.

## Critical Issues and Country Responses

To support quantitative and qualitative improvements in education, the adequate mobilization and efficient utilization of education resources will remain important operational objectives in all four countries. The task is especially daunting for Guyana because of its more limited economic capacity and historically weak financing foundation.

### Critical Issues

Table 3-3 summarizes the critical issues in education in each of the four countries: low quality, disparities, inefficiency, and limited access.

#### *Low Quality*

Low quality is a common concern in primary and secondary education in all four countries, affecting education inputs, processes, and output. Researchers often mention deficiency in teacher training as a contributing factor to low education quality. At the primary level, the proportion of teachers without training is about zero in Barbados, one-fifth in Jamaica, one-quarter in Trinidad and Tobago, and one-half in Guyana. At the secondary level, untrained teachers constitute about 20 percent of all teachers in Barbados and Jamaica, and about 40 percent in Guyana. In Trinidad and Tobago, the proportion of teachers without a degree ranges from about 60 percent in junior secondary schools to about 30 percent in other secondary schools. In Jamaica and Trinidad and Tobago, the proportion of untrained teachers was quite low in the late 1980s, but teacher training did not keep up with enrollment expansion in the 1990s.

Lack of learning materials and inadequate physical facilities are notable deficiencies in Guyana and Trinidad and Tobago. Low teacher morale is a problem in Barbados and

Trinidad and Tobago. Weak institutional capacity is a more serious problem in Guyana than in the other three countries.

An outdated curriculum and an excessively teacher-centered pedagogy are common problems in all four countries. They need to promote the acquisition of problem-solving and critical thinking skills and to strengthen students' knowledge and skills related to information technology and communications. The four countries vary in terms of degree of readiness to carry out reform in curriculum and pedagogy and in the extent to which weak management capacity is also a problem.

Low performance on internal and external examinations is commonly accepted as evidence of low education quality. The four countries use internal examinations (such as the secondary entrance examination) primarily for selecting students for further schooling; thus, enrollment capacity at the next schooling level influences the passing rates. However, evidence suggests that a significant proportion of students do not achieve minimum acceptable levels in key school subjects. The countries lack a mechanism for continuous assessment and feedback. So far, the focus of assessment is on test scores. Results for external examinations (such as the Caribbean Examination Council, CXC) indicate that a significant proportion of students do not perform satisfactorily (those with grades IV–VI; see table 3-4).

#### *Inefficiency*

Inefficiency in the utilization of scarce resources adversely affects the education sector in all four countries. For example, low student attendance and teacher absenteeism are problems in Guyana and Jamaica at both the primary and secondary levels. In Barbados, deviant behavior of students is a concern at the secondary level. Underutilization of available capacity is found at the tertiary level in Barbados, Guyana, and Ja-



**Table 3-4. Unsatisfactory Performance Rates in Selected School Subjects on the CXC, May–June 2000**  
(Percentage of students)

Country	Mathematics (general)	Chemistry	Biology	Physics (general)	English A (general)
Barbados	36.3	34.9	35.0	44.7	32.5
Guyana	75.5	58.9	65.6	64.4	74.1
Jamaica	62.6	51.7	51.9	60.8	52.2
Trinidad and Tobago	54.0	40.3	35.5	44.7	39.6
Caribbean region	60.7	45.4	44.2	52.0	50.7

Note: The CXC is the Caribbean Examination Council examination.

Source: Computed from Caribbean Examination Council (2000: tables 14 and 15).

maica. In Jamaica there is fragmentation and duplication of programs in some subsectors of education. In all four countries, external efficiency could be improved by making vocational-technical education programs more flexible and responsive to market changes. Secondary vocational-technical education is much more costly than secondary academic education, although graduates of vocational-technical education do not obtain market advantages. Employers are generally not satisfied with secondary vocational-technical education graduates.

### *Disparities*

There are substantial inequalities in education, particularly in Guyana, Jamaica, and Trinidad and Tobago. Access to schooling varies for children from different income levels, those enrolled in different types of education institutions, and those located in different regions. Female students have no disadvantage in access to schooling compared with male students. Females are more represented than males in general secondary and tertiary education. Female students generally perform at least as well as male students in national examinations. However, differential access to knowledge still persists in that female

students are more frequently found in subjects and disciplines associated with lower-paid occupations. There are significant gaps in wages between male and female workers in the labor market, after controlling for years of schooling. Information from Guyana indicates that females from various ethnic groups had a higher rate of return to schooling than their male counterparts.

Although information on education and ethnicity is lacking, evidence from Guyana shows that there are clear ethnic differences in educational attainment, with lower education for native and East Indian citizens. Analysis of data from Guyana and Trinidad and Tobago shows that workers of East Indian heritage have lower wages than workers from African and other ethnic backgrounds. Some of the countries and education institutions in this study do not collect information on the ethnicity of their students. However, improving education equality is implicitly related to ethnic equality.

### *Limited Access*

Limited access to schooling is a problem of varying degree at different levels in the four countries. Education policymakers in all four countries would like to universalize pre-school education in the coming years. Barbados,

Guyana, and Jamaica have high coverage of pre-school education, while Trinidad and Tobago lags far behind. All four countries lack adequate early childhood care and development for children under 3 years old. With wide coverage of primary and secondary schooling, expanding access to tertiary education is the current challenge in Barbados. For Guyana, Jamaica, and Trinidad and Tobago, expanding access to secondary education is a major challenge.

### Country Responses

The education response to the critical issues in the education sector has to take into account each country's socioeconomic and political context. With some variation in emphasis, the four English-speaking Caribbean countries are confronted with a common set of national development challenges. These challenges include the following: developing people's knowledge and skills; fostering human development as part of a broader strategy to enhance the competitiveness of the national economy; promoting social justice and reducing poverty; reinforcing national identity and cultural heritage; and strengthening democratic governance and social cohesion.

The country case studies group the specific education responses to the critical issues in the context of broader development challenges under three broad categories: achieving quality basic education for all; reforming education and developing an efficient education system; and improving the responsiveness and flexibility of the education system (table 3-5). The first category consists of placing top priority on improving the quality of basic education and targeting government resources at low-achieving and out-of-school children. It seeks to ensure that children from all backgrounds acquire the basic skills, knowledge, and values to effectively participate in all aspects of individual and nation-

al development. The second category attempts to reform secondary education to simplify its structure, focus on general education, and improve the utilization of resources at all education levels. It seeks to encourage the adoption of cost-effective education policies and thus improve the internal and external efficiency of the education system (Schiefelbein, Wolff, and Schiefelbein 1998). The third category develops a market-driven system of vocational-technical education and training and methods for certifying secondary graduates. It seeks to make the education system more adaptable to a changing environment and more responsive to the needs of the labor market.

The four countries have similar strategies for improving basic education for all. These include strengthening early childhood education, improving teacher training and various aspects of the education process (such as curriculum, pedagogy, and learning assessment), implementing comprehensive school-level intervention, and targeting resources to the most needy students. In addition to these strategies, countries such as Guyana and Trinidad and Tobago need to improve education inputs (instructional materials, textbooks, and physical facilities). Deshifting in junior secondary schools is seen as an urgent intervention in Trinidad and Tobago.

The countries also have similar strategies for improving efficiency in the utilization of education resources. They include, for example, strengthening the community-school relationship, decentralizing education, building capacity at various levels, and more fully utilizing resources in tertiary education. However, specific interventions vary among the four countries. In Guyana and Jamaica, reducing student and teacher absenteeism is an urgent step for raising education effectiveness and efficiency. Guyana, Jamaica, and Trinidad and Tobago need to reform secondary education in order to expand access, reduce inequality, and improve efficiency simultaneously. In Barbados, much of the focus

Table 3-5. Summary of Country Responses to Critical Education Issues

Category	Barbados	Guyana	Jamaica	Trinidad and Tobago
Quality basic education for all	<ul style="list-style-type: none"> <li>Improving coordination in early childhood education</li> <li>Continuous assessment and feedback</li> <li>Comprehensive school-level interventions</li> <li>Updating curriculum and reforming pedagogy</li> <li>Strengthening teacher education</li> <li>Strengthening information technology in education</li> <li>Raising teachers' morale</li> <li>Concentrating on general education at secondary level</li> <li>Targeting government resources and educational programs at low-achieving children</li> </ul>	<ul style="list-style-type: none"> <li>Improving quality of early childhood education</li> <li>Comprehensive school-level interventions</li> <li>Continuous assessment and feedback</li> <li>Improving teacher training</li> <li>Strengthening mathematics and science education in secondary education</li> <li>Strengthening training of school principals</li> <li>Increasing instructional time</li> <li>Providing textbooks and other instructional materials</li> <li>Providing safe and adequate facilities</li> <li>Strengthening community and parent involvement</li> <li>Targeting government resources and education programs at low-achieving and out-of-school children</li> </ul>	<ul style="list-style-type: none"> <li>Improving quality of early childhood education</li> <li>Comprehensive school-level interventions</li> <li>Reducing student and teacher absenteeism</li> <li>Strengthening teacher training and preparation</li> <li>Continuous assessment and feedback</li> <li>Improving curriculum and pedagogy</li> <li>Intensifying government support for basic education</li> <li>Strengthening community and parent support for basic education</li> <li>Strengthening teaching of computer literacy</li> <li>Targeting government resources and education programs at low-achieving and out-of-school children</li> </ul>	<ul style="list-style-type: none"> <li>Expanding early childhood education</li> <li>Comprehensive school-level interventions</li> <li>Improving teacher training</li> <li>Continuous assessment and feedback</li> <li>Improving curriculum and reforming pedagogy</li> <li>Providing safe and adequate facilities</li> <li>Strengthening management capacity of Ministry of Education</li> <li>Promoting educational decentralization</li> <li>Deshifting in junior secondary schools</li> <li>Expanding access to secondary education</li> <li>Targeting government resources and education programs at low-achieving and out-of-school children</li> </ul>
Reform and improved efficiency	<p>Interventions to be focused on efficiency and sustainability of tertiary education:</p> <ul style="list-style-type: none"> <li>Improving articulation of programs among institutions</li> <li>Reducing unit costs and more fully utilizing existing capacity</li> <li>Expanding BCC and SJPP<sup>a</sup></li> <li>Encouraging private sector involvement</li> <li>Devising financing scheme to ensure sustainability</li> <li>Strengthening regional cooperation</li> </ul> <p>Emphasizing general education at the secondary level and introducing technology education as a general education subject</p>	<p>Unifying and restructuring secondary education:</p> <ul style="list-style-type: none"> <li>Developing a common curriculum for forms 1–3</li> <li>Phasing out secondary departments and establishing new secondary schools</li> <li>Improving education inputs and reducing financial disparities among schools</li> </ul> <p>Interventions to improve efficiency throughout the education system:</p> <ul style="list-style-type: none"> <li>Reducing student and teacher absenteeism in primary and secondary education</li> <li>Strengthening community and parent involvement in primary and secondary education</li> <li>Emphasizing general education at the secondary level</li> <li>Strengthening management at various administrative levels</li> </ul>	<p>Multidimensional reform of secondary education (access, curriculum, structure, quality, and equalization)</p> <p>Interventions to improve efficiency throughout the education system:</p> <ul style="list-style-type: none"> <li>Reducing student and teacher absenteeism in primary and secondary education</li> <li>Strengthening community and parent involvement in primary and secondary education</li> <li>Emphasizing general education at the secondary level and introducing technology education as a general education subject</li> <li>Strengthening education management at the regional level and continuing decentralization efforts at regional and</li> </ul>	<p>Reforming secondary education:</p> <ul style="list-style-type: none"> <li>Converting of junior secondary schools to five-year schools</li> <li>Removing vocational-technical programs and converting comprehensive schools into academic schools</li> <li>Introducing technology education as a general education subject</li> <li>Focusing on general education</li> </ul> <p>Interventions to improve efficiency throughout the education system:</p> <ul style="list-style-type: none"> <li>Removing post-primary classes</li> <li>Strengthening community and parent involvement in primary and secondary education</li> <li>Emphasizing general education at the</li> </ul>

Category	Barbados	Guyana	Jamaica	Trinidad and Tobago
		<ul style="list-style-type: none"> <li>• Increasing use of distance education for teacher upgrading and instructional delivery</li> <li>• More fully utilizing resources in tertiary education</li> <li>• Strengthening regional cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• school levels</li> <li>• More fully utilizing existing capacity in tertiary education</li> <li>• Rationalizing programs in teachers colleges and improving cost-effectiveness</li> <li>• Strengthening regional cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• secondary level</li> <li>• Strengthening management capacity in the Ministry of Education, and promoting decentralization efforts at regional and school levels</li> <li>• Strengthening regional cooperation</li> </ul>
Responsiveness and flexibility	<ul style="list-style-type: none"> <li>• Moving secondary vocational-technical programs to post-secondary level</li> <li>• Strengthening coordination among key stakeholders of vocational-technical programs</li> <li>• Expanding second-chance education</li> <li>• Encouraging provision by the private sector</li> <li>• Developing an alternative method for certifying secondary graduates</li> </ul>	<ul style="list-style-type: none"> <li>• Establishing a policy-setting national council for TVET<sup>b</sup></li> <li>• Restructuring programs and selectively expanding programs in TVET to respond to market demand</li> <li>• Increasing female participation in technological programs</li> <li>• Improving management capacity of TVET institutions</li> <li>• Encouraging the provision of training by the private sector</li> <li>• Developing an alternative method for certifying secondary graduates</li> </ul>	<ul style="list-style-type: none"> <li>• Developing and strengthening modular programs in TVET</li> <li>• Allowing TVET programs to be driven by demand</li> <li>• Strengthening linkage between TVET institutions and labor market</li> <li>• Expanding second-chance education programs</li> <li>• Developing an alternative method for certifying secondary graduates</li> </ul>	<ul style="list-style-type: none"> <li>• Moving secondary vocational-technical programs to post-secondary level</li> <li>• Strengthening coordination among key stakeholders of vocational-technical programs</li> <li>• Expanding second-chance education</li> <li>• Encouraging provision by the private sector</li> <li>• Expanding programs for females</li> <li>• Developing an alternative method for certifying secondary graduates</li> </ul>

<sup>a</sup> BCC is the Barbados Community College and SJPP is the Samuel Jackman Prescod Polytechnic School.

<sup>b</sup> TVET is technical and vocational education and training.

for improving access and efficiency is directed at the tertiary level; the government is also incorporating new technology in teaching and learning at the primary and secondary levels.

The countries should work toward strengthening regional cooperation in education. Such efforts may take the form of undertaking more policy dialogue, sharing resources in common education initiatives, and setting and certifying education standards for increased labor mobility across the countries. They should also improve education responsiveness and flexibility by strengthening linkages among key stakeholders of technical and vocational education and training (TVET), moving secondary vocational-technical programs to the post-secondary level,

expanding second-chance education programs, encouraging private sector involvement, and developing an alternative method for certifying secondary graduates.

The countries have four common strategies for addressing these issues. First, they are improving quality through comprehensive school-level interventions, such as those in the school-based programs in the United States (see box 3-1). This strategy argues that improvement in teaching and learning requires a sustained and holistic approach to intervention at the school-site level. It points out that past attempts at school improvement have failed because these attempts tend to be top-down, uncoordinated, and fragmented. Com-

### Box 3-1. Comprehensive School-Level Reform in the United States

In recent years in the United States, two approaches have been adopted to push education decisionmaking down to the school level: school-based management and comprehensive school reform. The school-based management approach seeks to increase the decisionmaking power of school administrators, especially in matters concerning school budgets and personnel. Studies show that this is a limited approach that has little impact in practice on the classroom or on student learning (Odden and Picus 2000).

Advocates of comprehensive school reform argue that improving school performance requires sustained intervention that encompasses all the key aspects of education production at the school level, including school buildings, instruction, and curriculum. Past attempts at school improvement have tended to be top-down, uncoordinated, and fragmented. Experience has shown that the comprehensive school reform approach has been effective in raising the quality of education for children from poor and disadvantaged backgrounds (Levin 1993; Slavin, Karweit, and Madden 1989; Comer and Haynes 1990).

Although there are some variations in comprehensive school programs for disadvantaged students, these programs share a number of common conceptions and features. First, they recognize the centrality of school-level reform in improving student learning. Second, they adopt a holistic approach to school reform. Third, the school must have a clear mission, with shared decisionmaking among administrators, teachers, and parents. Fourth, parent involvement is an integral part of the operation of the school, and there are different levels of parent involvement. For example, Tsang and Wheeler (1993) find that in developing countries, strengthening the school-parent/community relationship is an important part of the overall effort to improve school performance.

prehensive interventions involve not only school personnel, but also parents and the local community, which are integral to school improvement. Such involvement is important from a resource mobilization standpoint and also for dealing with problems such as student nonattendance and teacher absenteeism.

Second, Guyana, Jamaica, and Trinidad and Tobago are decentralizing education. This strategy calls for increased decisionmaking at the regional and school levels, with an accompanying effort by the central ministry of education to strengthen the decisionmaking capacity at these two levels (see box 3-2).

The third strategy shifts curriculum emphasis in secondary education to the acquisition of general skills, not specific vocational

skills. Technology education can be introduced as a general education subject at the secondary level (see box 3-3). And vocational-technical education can be moved to the post-secondary level.

The fourth strategy is to increase and improve continuous assessment of student performance in basic education. Although each country should develop relevant internal assessment instruments, participation in international assessment is also desirable.

### Financing Strategies

The country case studies look at three broad categories of financing strategies to accompa-



### Box 3-2. Decentralization in Education

In recent years, international development agencies and governments have promoted decentralization in the management and financing of education as a promising strategy for raising the effectiveness and efficiency of education (World Bank 1995b).

Weiler (1990) makes four points in arguing for education decentralization. First, education decentralization will presumably redistribute decisionmaking power from higher to lower levels of government as a way of resolving conflicts among decisionmakers at various levels and moving decisionmaking authority closer to key stakeholders who are involved in educational activities. Second, decisionmakers at lower levels are more knowledgeable about education conditions and are thus better equipped to make decisions consistent with local needs. Third, locally designed education programs that recognize local contexts and special conditions are more likely to be effective in terms of learning outcomes. Fourth, more local involvement in education will be linked to a stronger sense of ownership of schools and thus will result in greater contributions of local resources, in cash and in kind, to schools.

By contrast, supporters of education centralization argue that centralization can promote uniformity and standardization and thus greater equality in education. They point out that decentralization tends to exacerbate existing inequalities across regions and among population groups, and that local decisionmakers may not necessarily make better decisions. To be effective and to deal with potential drawbacks, education decentralization has to incorporate four key measures (Tsang 1996). The first is clear identification of the power and responsibilities of different levels of government. Second, it should strengthen decisionmaking capacity at various levels. Third, it should develop a system of intergovernmental grants to reduce disparity in spending across regions and population groups and to guarantee a minimum level of spending for the most disadvantaged regions and populations. And fourth, it should establish education accountability at the local level.

Some observers point out that the government does not have to be either centralized or decentralized; it may play different roles at different levels. For example, a local government may support capacity-building activities in schools, the next higher level may focus more on education accountability at the local level, and the highest level may strike a balance in capacity-building and accountability roles (Wheeler and Schwille 1992).

ny the education response: improving efficiency, mobilizing additional resources, and targeting the use of education resources. All four countries place top priority on improving efficiency in the utilization of scarce education resources. They seek to obtain more education output from both existing resources and additional resources from government and non-governmental sources. The school systems channel additional resources to targeted groups

and selected programs. Table 3-6 summarizes the financing strategies in each country.

Improving education efficiency is an important approach both for responding to critical issues in education and for financing education (see the efficiency-related strategies in table 3-5). Several similar strategies are proposed for mobilizing additional resources for education, such as increasing government spending, cost recovery in tertiary education, community con-

### Box 3-3. Technology Education

Technology education as a subject in general education in primary and secondary schools is a relatively new development in many countries. Historical tradition, characteristics of precursor programs, prevailing ideology, and the structure of education governance influence the development of a country's technology education. Thus, there is a multiplicity of programs and innovations across countries. There is no one appropriate international model of technology education.

Tsang (1998b) reviews the experience of technology education in several economically advanced countries in Asia, Europe, and the Americas. Despite the differences in the programs of these industrial countries, their development and innovations provide some lessons about trends and issues. Here we summarize these lessons in five areas: historical development, conception and goals, curriculum, the government's role, and emerging challenges.

**Historical development.** Technology education is historically rooted in technical education, with different precursors in different countries (such as industrial arts in the United States; craft, design, and technology in England; and general technique in the Netherlands). Program segregation by gender and ability has been quite common, placing females in home economics and males in industrial arts/technical subjects, and creating technical subjects for less able students. Access to technology education for students from all backgrounds is a key issue. Technology education has become a required subject in general education at the primary and secondary levels in a number of industrial countries, primarily in response to the growing demand for technological literacy in the context of a skill shift in the modern workplace. Although technology education is a strategy to increase the practical orientation of general education, it is distinct from traditional vocational/technical education. At the same time, there is increasing demand to transform traditional vocational/technical education to broaden its curriculum so as to promote more flexible skill training. Pre-vocational programs have been phased out of the school curriculum in the process over time.

**Conception and goals.** There are divergent views about the conception of technology education across and within countries. Economic interests have a strong influence on the conception and goals of technology education in all countries. Presumably, technology education equips students with technology-related skills and abilities so that they can subsequently perform more effectively in the modern workplace. Countries differ in the extent to which other views (for example, concerning control of technology in a democratic society or the relationship between technology and the environment) influence technology education. Technology education is broadly defined in some countries (such as England) and more sharply focused on technical elements in others (such as Japan and Taiwan), although over time there has been a shift toward a broader conception of technology. Recent trends in technology education include the acquisition of more flexible skills, greater integration across subject areas, increased emphasis on problem-solving ability, movement away from the dichotomy of academic versus practical subjects, and the combination of theory and practice.

**Curriculum.** The diversity in curriculum approaches and content among countries reflects differences in conceptions and goals. Schools, especially at the upper-secondary level, increasingly emphasize process design in technology and use study projects as a curriculum activity. Problem solving is an important curriculum activity across primary and secondary levels. Educators in some countries (for example, the United States) favor the modular approach to curriculum design in middle

school, and an integrated approach in upper-secondary education (for example, Japan, Taiwan, and the United States). There are similarities across countries in terms of materials, design, and systems.

**The government's role.** The role of the national government varies across countries. The central government plays a major role in policy formulation and implementation in Japan and Taiwan. Australia has federal curriculum guidelines, but actual policymaking and implementation reside in the state governments. In the United States, there are no national standards, and implementation is highly decentralized. Technology education as a school subject in secondary education has a subordinate status, especially in countries (such as Japan and Taiwan) where it is not a subject on the national entrance examination for university education.

**Emerging challenges.** The development of technology education faces seven common challenges across countries. First, countries need to provide and strengthen teacher education for technology education. Second, technology teachers require periodic professional development. Third, technology education programs lack adequate facilities and equipment. Fourth, curriculum revision lags behind advances in technology education. Fifth, education systems need to design appropriate assessment methods for technology education. Sixth, there is a lack of teacher-friendly curriculum materials. And seventh, technology education competes for instructional time with other subjects in general education, especially at the secondary level.

tributions, and private sector involvement. Because the countries vary in economic capacity, different fiscal targets for government spending are identified for the four countries. Guyana, Jamaica, and Trinidad and Tobago charge tuition for university education, but Barbados does not. This study proposes the introduction of cost recovery in university education in Barbados and additional cost recovery in the other three countries, and measures (for example, providing scholarships) to assist students from marginalized backgrounds in order to promote equity in financing. The study proposes similar strategies for targeted use of education resources in the four countries. For example, interventions in primary, secondary, and tertiary education target populations from rural, poor, and certain ethnic backgrounds. Efforts to strengthen access to vocational training are needed for females and for individuals from rural and poor backgrounds.

## Lessons from the Case Studies

A number of lessons and observations can be made from the four country case studies. This section presents a brief description of seven lessons.

### *The Impact of History and Tradition*

The case studies show that some of the key features and challenges for the education system in the four countries today can be traced to the historical legacy of British colonialism and to some practices adopted in earlier times. It is important to understand the impact of history and tradition on the present education system in order to arrive at more informed decisions regarding the future development of the system. One prominent example is the varying role of the state and nongovernmental bodies in the financing and provision of schooling. In Jamaica and Trinidad and Tobago, religious bodies have historically been important stakeholders in ed-

**Table 3-6. Summary of Financing Strategies**

Category	Barbados	Guyana	Jamaica	Trinidad and Tobago
Mobilizing additional resources	<ul style="list-style-type: none"> <li>• Raising fiscal effort by about 2 percentage points over a period of several years</li> <li>• Instituting cost recovery in university education with consideration for equity</li> <li>• Promoting community support for school maintenance and repair</li> <li>• Encouraging private delivery of early childhood education, TVET<sup>a</sup>, and tertiary education</li> </ul>	<ul style="list-style-type: none"> <li>• Government education expenditure to grow at the rate of real GDP</li> <li>• Raising fiscal effort to about 10 percent by 2000</li> <li>• Increasing cost recovery in post-basic education with consideration for equity</li> <li>• Increasing community contribution</li> <li>• Increasing employer financing and provision of training</li> </ul>	<ul style="list-style-type: none"> <li>• Raising fiscal effort to 15–16 percent over a period of time</li> <li>• Increasing cost recovery in university education with consideration for equity</li> <li>• Promoting community support for school maintenance and repair</li> <li>• Encouraging private delivery of early childhood education, TVET<sup>a</sup>, and tertiary education</li> </ul>	<ul style="list-style-type: none"> <li>• Raising fiscal effort by 2–3 percentage points over a period of time</li> <li>• Increasing cost recovery in university education with consideration for equity</li> <li>• Promoting community support for school maintenance and repair</li> <li>• Encouraging private delivery of early childhood education, TVET<sup>a</sup>, and tertiary education</li> </ul>
Targeting use of education resources	<ul style="list-style-type: none"> <li>• Improving the learning achievement of the neediest students</li> <li>• Developing and strengthening selected programs in tertiary education</li> <li>• Increasing use of education technology at various levels</li> </ul>	<ul style="list-style-type: none"> <li>• Improving access to education at the secondary and tertiary levels for marginalized groups</li> <li>• Expanding vocational training for rural populations</li> <li>• Increasing female and Amerindian students in TVET<sup>a</sup></li> <li>• Expanding access to university programs outside Georgetown</li> </ul>	<ul style="list-style-type: none"> <li>• Improving the quality of rural and urban schools in low-income neighborhoods</li> <li>• Expanding access to secondary and tertiary education for marginalized groups</li> <li>• Expanding vocational training for the poor and the unemployed (especially females)</li> </ul>	<ul style="list-style-type: none"> <li>• Assuring access to early childhood care and education for children from poor backgrounds</li> <li>• Providing textbooks to children from poor backgrounds</li> <li>• Constructing schools in underserved areas</li> <li>• Supporting school-level reform in the neediest schools</li> </ul>

<sup>a</sup> TVET is technical and vocational education and training.

Note: For improving efficiency, see table 3-5.

ucation, in addition to the state, teachers' unions, and parents. Education policies that recognize the legitimate interest of all the key stakeholders are more likely to be accepted and carried out in practice. Another example is the practice of using institutional (for example, different types of secondary schools) and curricular (for example, vocational versus academic education) differentiation to effect social strat-

ification. Efforts to restructure education must confront the long-rooted stratification role of the education system in the larger society.

### ***The Multidimensional Role of Education***

The role of education in national development is multidimensional. Society's goal is for education not only to contribute to economic

growth and competitiveness in a global environment, but also to reduce poverty and social inequality, promote social justice, enhance social cohesion, and build national identity. Although the range and relative emphasis of goals may change over time as new conditions emerge, education remains an integral part of the social fabric. From the individual's point of view, education has a strong impact on personal development and place in society.

### ***Tensions in Education***

Because of the multiplicity of goals placed on the education sector, education development is often characterized by tensions and even conflicts. Enduring tensions in education in the four countries manifest themselves in at least three ways. First, education for social efficiency conflicts with education for social stratification. For example, various differences in curriculum and institutions effect stratification, but such differences often undermine efficiency in the production of skills and knowledge. Second, the social demand for continued expansion of education confronts the dilemma of limited national and fiscal resources for education. Governments often provide low-cost, low-quality education services to meet social demand for schooling. Third, tensions arise in the governance of education. Although the government would like to continue its dominant position, the local community and nongovernmental bodies seek increased influence in education matters.

### ***Gender Inequality***

The four English-speaking Caribbean countries show that by adopting a policy of equal access to schooling for boys and girls, it is possible to achieve gender equality in access to schooling. In fact, in some of these countries,

girls often perform better than boys in national examinations and are more represented in general secondary education and post-secondary education than boys. However, as in many other countries, gender inequality in access to knowledge still persists and is associated with gender inequality in the labor market. Interventions outside the education sector are necessary to promote greater gender equality in the larger society.

### ***The Increasing Role of the Private Sector***

The four countries increasingly recognize that the private sector should play a stronger role in financing education at various levels and in providing education services, particularly in pre-school education, TVET, and post-basic schooling. In Guyana and some countries in other parts of the world, the diminishing role of the state in economic production has created the opportunity for reducing its role in other sectors, such as education.

### ***Partnership in Education***

Many agree that quantitative and qualitative improvements in the education system require government action, but also cooperation and partnership among all the key stakeholders of education in the country. For most countries, the key stakeholders include the government; parents and the local community; the private sector; teachers, principals, and other education staff; and related professional organizations. For some countries, nongovernmental organizations, religious bodies, and external development agencies also play important roles. Those active in the education sector understand the need to further decentralize education decisionmaking and to strengthen management capacity and accountability at the local and school levels.



## **Financing**

First, despite some similarities, the four countries differ in education financing. For example, they vary in terms of the role of the government and nongovernmental bodies, in the utilization of resources across education levels and among education inputs, and in national and fiscal effort for education. These differences are due not only to variations in economic capacity, but also to historical and political circumstances. Financing policies must take into account the unique national and local contexts and avoid the uncritical application of a general financing model.

Second, adequacy in education funding is important for maintaining quality and efficiency. Persistent underfunding of education accompanied by enrollment expansion can lead to high absenteeism, low learning achievement, and thus wasteful spending.

Third, in mobilizing additional resources for education, government and nongovernmental sources are important. And the sector uses monetary and in-kind resources. For example, the time that parents spend with their children at home and at school could have an important impact on learning achievement, and school performance.

Fourth, household spending on education is often a significant part of total resources for education and is part of the source of inequality in education. Thus, while the government may encourage cost sharing with households, additional government support for poor households is necessary to mitigate the inequality impact of household education spending.

Fifth, noneducation ministries often contribute to government spending on education. In some countries, spending on education by noneducation ministries makes up an important part of total government spending on education. Education and noneducation ministries need to coordinate to avoid duplication of education services.

## **Areas for Further Inquiry and Analysis**

To contribute to more informed education decisions in the four countries, further inquiry and analysis are needed in the following areas.

### **Competencies**

This study identifies some general core technological and transnational competencies. But such competencies have to be put in context for each of the four countries. Identification of the specific competencies and their measures requires study and further discussion among key stakeholders in each country. The countries may share some common competencies and have some unique ones.

### **Comprehensive School-Level Reform**

Comprehensive interventions at the school level over a period of time would be a promising approach to improving the quality of learning in primary and secondary schools. The four countries need to experiment and evaluate such school-level reforms. They may consider the experience of successful school reforms in other countries. Likewise, the lessons learned from school reform in these Caribbean countries will contribute to the international understanding of school quality.

### **Continuous Assessment and Feedback**

The countries need to design, implement, and evaluate methods for continuous assessment of learning achievement, and to use the achievement results for diagnostic purposes. International experience should be relevant in this area. In addition, in order to gauge the learning levels of their students, the Carib-

bean countries should participate in international education assessment.

### **Information**

Lack of timely and accurate information on students and education institutions often handicaps the analysis of education in these countries. Although the severity of the problem varies across the four countries, they all need to strengthen their education management information systems.

### **Decentralization**

The countries need to strengthen and refine decentralization in education. Further analysis and implementation are necessary to clarify decisionmaking powers and responsibilities across administrative levels and among key stakeholders, to improve management capacity, and to reduce the disparities often associated with decentralization.

### **Alternative Certification of Secondary School Graduates**

The four countries need to identify and evaluate alternatives to the CXC examination for certifying the learning achievement of secondary school graduates. A cross-national study with both individual analysis and cross-country consultation will be useful. Regional cooperation could be fruitful in this area.

### **Technology Education**

This study proposes moving specific learning of vocational-technical skills from secondary education to the post-secondary level. Technology education may be introduced in primary and secondary education as a general education subject, which should be incorporated into the school curriculum. The countries

may consider international experience in this area, and design and implement technology education according to their country context.

### **New Technology**

New education technology is becoming a pervasive feature of the education process. The countries need to properly identify the appropriate and cost-effective use of this technology.

### **Teacher Effectiveness**

Raising the effectiveness of teachers is a key element in the overall effort to provide quality basic education for all. It is related to the problems of low compensation, absenteeism, and low morale. Further studies and analyses are necessary to identify appropriate interventions in each of the four countries.

### **Regional Cooperation**

The CARICOM countries benefit from regional cooperation in education and training. A study and further analysis would be useful for identifying areas for further cooperation. Some potential areas may include the following: financing and delivery of pre-school education; incorporation of technology education in the school curriculum; development of an alternative to the CXC for certifying secondary graduates; design of a responsive and flexible system of vocational-technical education and training; and standardizing and measuring labor skills.

## **A Regional Perspective for Education**

Given the increased globalization of economic and noneconomic activities, changing international development contexts will increasingly

affect education decisionmaking. The salient emerging challenges have particular implications for the Caribbean region.

Economic productivity and competitiveness require the ability to make efficient allocative decisions in a situation of change and uncertainty, as well as to manage knowledge and skills in the information age. In this new economic environment, nations with more human capital have a comparative advantage over nations with less human capital, other things being equal (Thurow 1997). For the Caribbean countries, this environment calls for a renewed interest in national investment in education and training and a close examination of the essential subjects to be taught in education and training institutions. Defining and developing the emerging functional skills and knowledge will be an important task of education investment projects in these countries, including projects financed by bilateral and multilateral development agencies.

In the English-speaking Caribbean countries, despite recent socioeconomic progress, between 14 and 35 percent of the population still live in poverty (table 1-1). Without a concerted national effort of intervention in the economic, education, health, and other domains, the poor will remain trapped in their dire condition. Poverty alleviation should remain a key development goal in the Caribbean region as in other parts of the world. Education is an integral part of a multisectoral approach to poverty alleviation, and education projects aimed at poverty reduction should be a priority area for domestic and international financing.

Another related concern is the increased economic inequality between countries and within countries that has accompanied global economic growth (Rodrik 1998; Inter-American Development Bank 1998a; UNDP 1999). Excessive inequality can be politically destabilizing within a country and can be a source of conflict among countries. This problemat-

ic situation is likely to intensify in the coming years in the absence of significant and strong interventions. More broad-based development and social justice require reducing the highly uneven distribution of resources across and within countries. In the Caribbean region, the promotion of social justice and the reduction of economic inequality are desirable development goals for the years to come. To address the problems of poverty, inequality, and inequity in the Caribbean region, domestic and external development organizations should continue to target their efforts at the poor and other disadvantaged population groups. In particular, children make up the core target in these groups (UNICEF 2000).

Increased ethnic and religious conflicts and other sources of fragmentation within countries in recent years have undermined efforts to achieve socioeconomic progress in many countries. Political stability and democratization in decisionmaking at various levels provide a foundation for national development (Manor 1999). In the new century, the Caribbean region needs to promote democratic socialization, encourage tolerance, foster partnership among population groups in various aspects of social life, and maintain a strong sense of national and regional pride.

The case for regional cooperation among the Caribbean countries is as relevant today as it was in 1976, when CARICOM first came into existence. Facing a similar set of development challenges and common international contexts, the Caribbean countries need to strengthen their existing ties and adopt a regional perspective in key areas of national development. The call for increased regional cooperation may be derived from five key areas. First, the trend toward regional trading blocs points to the need for Caribbean countries to present themselves as a group in their dealings with other trading powers or blocs. Second, economic cooperation and labor mo-

bility among the Caribbean countries would help to improve their economic competitiveness. Third, the countries could gain increased strength from a common voice in noneconomic matters, such as foreign policy and the treatment of nationals by other countries. Fourth, economies of scale could generate gains in efficiency through joint delivery of services, especially in light of the small population size of CARICOM countries. Fifth, the countries could share their development experiences, which are often of regional relevance because of common historical and socioeconomic backgrounds, as well as similar geographical and political circumstances. In short, greater regional cooperation would enhance the effectiveness and efficiency of the policies and interventions of the Caribbean countries.

In the education sector, regional cooperation also has the potential of enhanced effectiveness and efficiency. A regional perspective for education may be devised to foster unity and the sharing of education ideas as well as resources among countries in the region. Promising areas for regional cooperation in education include joint efforts in education research and experimentation, delivery of education services, and establishment of common assessment and certification schemes. As some observers from the Caribbean region point out, the creation of a unified region is a key driving force for the development of the Caribbean countries in the twenty-first century (Miller 1999; Forde 2000). Economic development and education mobilization are agents of regionalization.

Countries in the Caribbean region have been proactive in shaping education policies in the region for over a decade. During the first half of 1990, for example, the Ministers of Finance from the Caribbean Group for Cooperation in Economic Development (CGCED, consisting of Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grena-

da, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago) asked the World Bank for a study of education issues and an education plan for the region. The resulting report (World Bank 1993) provides a comprehensive review of the issues concerning access, quality, and efficiency at each level of education; it also explores policy and investment options for each level.

In particular, the World Bank report highlights a number of strategies and priorities for education in the Caribbean region, including the following: expanding access to higher education while simultaneously improving the quality and equity of access to education and training programs at all levels; raising achievement levels in all primary and secondary school subject areas, particularly in English and mathematics; promoting equity in access to quality secondary education; giving greater emphasis to participatory financing strategies, with contributions from the public and private sectors as well as from individuals; taking the necessary steps to ensure that additional education resources are utilized cost-effectively; and assigning the highest priority to primary and secondary education in allocation of public education resources.

In 1997, the Secretariat of CARICOM undertook an effort to develop a regional perspective on education policies (Caribbean Community Secretariat 1997). While recognizing the relevance of the issues and policy options mentioned in the 1993 World Bank report, the CARICOM strategy paper defines the directions for education and training in the new international context. These directions include the following: preparing graduates who are adaptable, flexible, creative, competent, and futuristic in thinking; shifting the focus of education from entry requirements to exit standards; and serving both genders and being sensitive to the special needs of learners. The paper calls for a partnership of stakeholders in

various aspects of the education process, including the provision of education opportunities, governance and management, financing, and institutional collaboration.

With the assistance of the World Bank, the CGCED countries have updated their education strategies for the region. World Bank 2000a identifies three major deficiencies in education: limited access at the secondary and post-secondary levels; ineffectiveness of the education system; and inequity in education. To overcome these deficiencies, a combination of strategies is being considered. They include narrowing the knowledge and skill gaps in the present labor force, making the school the focus of the learning community, reducing inequities in school systems, strengthening regional cooperation, and improving education financing and management.

In close collaboration and consultation with its member states in recent years, the Inter-American Development Bank (IDB) has engaged in an active process to formulate education strategies for various levels of education in the Latin American and Caribbean region (Inter-American Development Bank 1997a, 2000b, 2000c). Although some of the proposed interventions are still under discussion, a brief summary can be given here. At the primary and secondary level, inadequate quality and inequity are seen as the major deficiencies. Reforms are needed in five critical areas: changing the way teachers operate and are trained and rewarded within schools; reforming school management to emphasize autonomy, accountability, and teamwork at the school level; providing adequate learning materials; using information technology appropriately to improve learning and meet new labor market demands; and targeting pre-school, especially for underprivileged populations. At the higher-education level, policy issues that are crucial to performance are equity, public subsidization, incentives, finance, governance, and quality en-

hancement and control. Policy changes should favor increased cost recovery, greater use of performance-based public funding, and an improved evaluation system with multiple formats that recognize the multiplicity of institutions and their functions.

Here we present a framework for a regional perspective for education development in the new century. It is based on the lessons learned from the four country studies and the findings reported in CARICOM 1997, World Bank 2000a and Inter-American Development Bank 1997a, 2000b, 2000c. The framework can be expressed in terms of a common development vision for education, a set of education strategies for realizing the vision, and the broad outline of an agenda for action in the education sector.

With some adaptation to suit national contexts, a common development vision for the education sector may be articulated for the Caribbean countries. This vision consists of the development and strengthening of an education and training system that does the following:

- Provides the opportunity for learners to acquire the various competencies that enhance individual development and national economic competitiveness in a fast-changing, technology-driven, global environment
- Provides the lifelong opportunity for all to acquire the necessary knowledge and skills to be productive, engaged, and contributing members of society
- Assures that learners from rural and disadvantaged backgrounds achieve a minimum level of learning for functional participation in national life
- Serves as a major institution for promoting social cohesion, an appreciation of historical and cultural heritage, and a strong sense of identity and self-esteem.

Table 3-7 identifies a tentative list of competencies as learning outcomes of the education



**Table 3-7. Learning Outcomes in the Caribbean Region**

Type of competence	Explanation
Basic	Mastery of basic oral, written, and mathematical skills; knowledge about history and social institutions of the Caribbean region
Methodological	Ability to solve problems and be inquisitive and critical
Technical	Mastery of electronic, computing, and other technological devices
Behavioral	Appropriate work ethic, self-initiative, self-responsibility, self-esteem, tolerance toward racial and gender diversities, respect for Caribbean heritage, and conflict resolution through nonviolent means
Specifically related to production	Specific knowledge and skills related to economic production in the Caribbean region (tourism, farming, raw material mining and processing, and small-scale manufacturing)
Moral	Disposition toward family and kinship values, community cohesion, individual integrity, and social purpose
Technological	Ability to ask “why” and “how” about technology, control over informed use of technology, technology for democratic citizenry and sustainable environment
Transnational	Ability to communicate effectively with people from diverse cultures and backgrounds

and training systems in the Caribbean region. Some variations in learning outcomes to suit national contexts are expected. Considering the development vision for education and the concrete realities, the region must achieve several specific objectives in order to develop various subsectors in a balanced education and training system. These objectives include the following:

- Expanding and improving the quality of pre-school education for children aged 3 to 5 years
- Improving the quality of primary and secondary education and expanding access for out-of-school children
- Reforming the structure of secondary education and focusing on general education at that level, and moving secondary vocational-technical education to the post-secondary level
- Developing and strengthening a demand-driven, responsive, and flexible system of vocational and technical education and

training, and strengthening private sector leadership in this subsector

- Improving efficiency, undertaking selective expansion, and enhancing the financial sustainability of tertiary education, particularly community colleges
- Reforming teacher education (in conjunction with reforming curriculum and pedagogy) and improving its efficiency
- Strengthening second-chance education and training, and developing lifelong and continuing education programs.

Strategies for achieving these education objectives can be assessed in terms of at least five policy criteria, by determining whether the strategies do the following:

- Contribute to improved quality
- Contribute to more efficient utilization of education resources
- Contribute to expanded access for targeted groups or selected programs

**Table 3-8. Examples of Education Strategies Considered by Countries in the Caribbean Region**

Policy criteria	Strategies
Quality	<ul style="list-style-type: none"> <li>• Comprehensive school-level reform, making the school and classroom the center of education change</li> <li>• Elimination of the common entrance examination and replacement with continuous assessment, monitoring, and feedback; participation in international education assessment</li> <li>• Access to textbooks, particularly for children from poor and rural backgrounds</li> <li>• Integrated reform in curriculum, pedagogy, preparation and use of textbooks, and teacher training, including greater use of information technology to enhance teaching and learning</li> <li>• Improving teachers' working conditions and reforming the incentives for performance in school</li> <li>• Safe and adequate facilities</li> </ul>
Access and equity	<ul style="list-style-type: none"> <li>• Expanded access to pre-school education delivered by nongovernment agencies with technical and financial assistance from the government</li> <li>• Establishment of five-year, single-shift secondary schools in underserved areas</li> <li>• Improving retention of male students at various levels</li> <li>• Development of flexible, demand-driven vocational-technical programs</li> <li>• Selective expansion of programs in tertiary education</li> <li>• Delivery of tertiary programs to remote areas through distance education</li> <li>• Upgrading the skills of teachers in rural and poor areas</li> <li>• Reduction of private costs of schooling for poor families</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>• Reduced teacher absenteeism through incentives and stronger school management and parent involvement, and accountability of teachers at all levels</li> <li>• Reduced student absenteeism through a combination of interventions (for example, teachers' effort, parent involvement, targeted incentives for disadvantaged families, and stronger school management)</li> <li>• Focus on general education at the secondary level</li> <li>• Decentralization of education, with capacity building (training and information systems) and accountability at school and local levels</li> <li>• Strengthening of education management at various levels, including increased school autonomy</li> <li>• Greater emphasis on technology education as a general subject in primary and secondary schools</li> <li>• Rationalization of structure, reduction in program duplication, and increased utilization of education resources in tertiary education</li> <li>• Development of an alternative to the CXC for assessing secondary graduates<sup>a</sup></li> <li>• Establishment and strengthening of a legal framework to reflect the rights and responsibilities of all stakeholders in the education system</li> <li>• Increased regional cooperation in education</li> </ul>
Financial viability	<ul style="list-style-type: none"> <li>• Strengthened partnership among key stakeholders of education in financing and delivery at all education levels</li> <li>• Increased government financing commitment for basic education</li> <li>• Increased cost recovery in tertiary education with accompanying measures to reduce inequity</li> <li>• Increased private sector involvement in the financing and management of vocational-technical education and training</li> <li>• Increased cost-effectiveness and efficiency in education production (see efficiency strategies in table 3-4)</li> </ul>

<sup>a</sup> The CXC is the Caribbean Examination Council examination.

- Promote equity in access to schooling and knowledge
- Enhance the financial viability of the education and training system.

For each education subsector and for the entire sector, strategies can be classified according to these policy criteria. Some strategies may meet more than one of these criteria. Table 3-8 identifies potentially promising strategies that Caribbean countries should consider. Further inquiry, analysis, and experimentation are necessary to increase the likelihood of success.

Effective implementation is an important factor in the success of these potentially promising strategies. Across countries, it is not unusual to find a substantial gap between policy and practice. Some countries may not carry out relevant education strategies or may not implement them as intended, thus having little or no impact. Caribbean countries face a number of inherent tensions and significant challenges as they seek to change their education systems. For example, since colonial times, the education system has been used as a tool for social selection, to identify winners and losers. The challenge is to orient the education system toward the development of competencies for students from all backgrounds.

Education for social stratification versus education for social efficiency is another enduring tension. Efforts to use the education system for social stratification often conflict with efforts to improve the efficiency of production of relevant skills and knowledge.

Strong social demand for education often runs into the constraint of limited national and fiscal resources. Countries often provide low-cost, low-quality education services to increase access to education. Limited resources could preclude the government from undertaking comprehensive and simultaneous im-

provements in education, thus resulting in fragmented reform or serious imbalances in implementation.

Countries might have problems matching international assistance with local capacity. The Caribbean countries vary in their capacity to develop education policies, implement education programs, and evaluate the soundness of external advice on education. In addition, they differ in their tendency to rely on international assistance. Most countries face an ongoing challenge to develop local and regional capacity.

The “brain drain” has implications for efforts to improve education systems. Observers from the Caribbean point out that their countries often lose some of the best graduates to emigration, and that this brain drain has adverse effects on the development of education and other sectors. It is a challenge to produce well-educated individuals and to keep them in the region.

The impact of conditions outside education also affects the education sector, which operates within a larger social context. For example, the adverse education experiences (for example, lower performance, lower attendance, and adverse behavior) of male students in the Caribbean region are related to lower perceived value of education in a sustained period of economic downturn and to violence in the larger society (Miller 1986). Educators and education decisionmakers often have no control over these contextual factors.

The Caribbean countries will need to confront and resolve these and other tensions and challenges. However, it is important to recognize that the countries have strengths and experiences that the government and other institutions could use for the development of the education sector. For example, there is strong parent support for education. This cultural trait is an important asset for education development in the region. The government

needs to continue to cultivate parent support for education and not take it for granted. Parent involvement could prove to be effective in addressing problems of teacher and student absenteeism in some countries.

Community and nongovernmental organizations are also important. The church, community groups, and other nongovernmental organizations have a long history of involvement in education in the Caribbean region. They are important partners of the government and should be consulted in the government's formulation and implementation of education policies.

Another strong point is the region's experience in regional cooperation. The Caribbean countries already have established organizations and mechanisms for regional cooperation in education and in other sectors. As pointed out in the next section, regional cooperation could lead to improved efficiency in the utilization of scarce education resources. There is a need to continue and strengthen such cooperation.

Unlike some countries in other parts of the world that are periodically torn by war and other social upheavals, most of the Caribbean countries have experienced relatively stable political-economic development in the past few decades. Many of the countries are also well endowed with natural resources. And in the past few years, the economy staged a recovery in some of these countries. These are relatively favorable conditions for education development. For example, despite the issues currently facing the education sector, the four countries in this study have made steady, significant progress in developing it, particularly in expanding coverage. Although past achievement does not guarantee future success, the Caribbean countries have a history in developing institutions and managing social conflicts in education.

## Regional Cooperation and the Role of Donor Agencies

Regional cooperation in education has potential benefits and challenges. By taking advantage of economies of scale and sharing scarce resources, regional cooperation could result in the improved efficiency and financial sustainability of the education system. The Caribbean countries have already undertaken a variety of cooperative activities, including sharing information and joint policy development, operating regional institutions (such as the University of West Indies), and delivering regional education services (such as the examination run by the CXC). However, education cooperation in the region has to confront the challenges of limited resources, potential conflicts between regional and national education interests, and coordination of the programming priorities of governments and donor agencies.

In its review of education cooperation in the Caribbean region, the World Bank (1993) identifies three policy concerns: strengthening policy development, increasing the sustainability of selected regional institutions, and prioritizing areas for regional cooperation. Although some of these concerns may still be valid today, other emerging issues should also receive attention. Given the new environment confronting the Caribbean countries, it seems timely to conduct a new study of education cooperation in the region. This study will have at least three objectives: evaluating the strengths and weaknesses in education cooperation in the past decade; identifying and prioritizing areas for education cooperation in the next decade; and identifying the financial, organizational, and operational conditions necessary for effective regional cooperation.

Bilateral and multilateral donor agencies have been an important source of financial and technical resources for education development in the region. World Bank 1992 re-

**Table 3-9. Improving the Effectiveness of Education Lending by Multilateral Agencies**

Lending process	Strategies for enhanced project effectiveness
Project identification and policy dialogue	<ul style="list-style-type: none"> <li>• Not imposing an education agenda on the recipient government; close consultation between recipient government and donor community in defining scope and objective of projects</li> <li>• Improving the information basis for policy dialogue and project identification</li> <li>• Seeing that donor community and national/regional organizations identify emergent issues, conduct policy dialogues, and define frameworks for education strategies</li> <li>• Strengthening national and regional capacity for engaging in policy dialogue</li> <li>• Working with recipient governments on agreed high-priority areas</li> <li>• Conducting small-scale pilot testing of ideas</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>• Making sure project design is feasible with respect to the implementation capacity of local authorities</li> <li>• Avoiding delay in construction by carefully studying local construction capacity and completing site selection and acquisition before project approval</li> <li>• Conducting joint missions for projects with multiple donors</li> <li>• Encouraging continuity in implementation staff and recruiting qualified staff</li> </ul>
Financial analysis	<ul style="list-style-type: none"> <li>• Incorporating macroeconomic analysis in the preparation of education projects and incorporating education projects in the national development plan</li> <li>• Analyzing the financial feasibility of education projects and assessing financial risks</li> <li>• Improving the reliability and timeliness of education statistics, demographic data, and financial information</li> <li>• Being realistic about the magnitude of the gains in internal efficiency assumed in the financing plan</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>• Incorporating sustainability analysis as part of project preparation, including the costing of additional recurrent resources needed to maintain project effectiveness after the end of donor lending</li> <li>• Securing the commitment of the recipient government to support the spinoff effects of projects</li> <li>• Assessing the risks in project sustainability by examining the potential adverse effects of factors external to education (for example, labor market conditions and fiscal constraints)</li> </ul>
Institution building	<ul style="list-style-type: none"> <li>• Recognizing that institution building is an important determinant of project effectiveness</li> <li>• Treating institution building as an end in itself in project design</li> </ul>

Source: World Bank (1993); Inter-American Development Bank (1997).

views donor activities in education in the late 1980s and early 1990s. It identifies three major findings: (1) the larger countries in the region placed more attention on primary education, while the smaller countries focused on post-primary levels; (2) multilateral donors favored capital expenditure and bilateral donors emphasized overseas training; and (3) a small proportion of the aid budget financed activities promoting capacity building.

The four Caribbean countries examined in this book have experienced shifts in the involvement of donor agencies since the early 1990s. For example, with the attainment of universal primary education in the region, the countries have devoted more attention to expanding access to secondary education as well as to reforming the curriculum at that level in the entire region. In addition, they have paid more attention to capacity-building activities,



such as the development of management information systems, curriculum design, and education assessment. Nevertheless, capital expenditure remains an important aid category for multilateral agencies because of the ever-present need to undertake construction of new schools and reconstruction of existing schools.

In the early part of the new century, countries in the region will focus on secondary and higher education. For example, in their most recent education strategy document, the CGCED countries have set the target of achieving upper-secondary or higher education for at least 60 percent of the population by 2020 (World Bank 2000a). And the region aims to have a 30 percent increase in the number of graduates in science and technology at the post-secondary level.

The IDB has established an education agenda with 10 education priorities. The first priority is the attainment of universal secondary education with a primarily general education curriculum. The second is to develop vocational-technical education at the post-secondary level. Third is certification of secondary school graduates. Fourth is the development of tertiary education, particularly

community colleges. Fifth is the preparation of certified teachers in poor and rural areas. Sixth is the development of both formal and nonformal programs for lifelong and second-chance education. Seventh is the development of skill standards for the workplace. Eighth is improvement in access to and quality of pre-school education. Ninth is reform in education management and school governance. And tenth is improvement in retention of male students at all levels. Thus, while these education priorities cover all education levels, they are mostly directed at the secondary and post-secondary levels.

Multilateral donor agencies such as the World Bank and the IDB have more than three decades of lending experience in the education sector in the Caribbean region. These agencies conduct periodic reviews of their education projects to assess and improve their effectiveness. Such reviews cover several areas of the lending process, such as project identification/policy dialogue, implementation, financial analysis, sustainability, and institution building. Table 3-9 summarizes the findings of recent reviews conducted by these two agencies.



## Chapter Four

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# Barbados

Education policy in Barbados has to address critical issues currently facing the education system, as well as emerging challenges in the new century. The education system must contend with unsatisfactory student achievement, limited access in some education subsectors, and internal inefficiency and increasing financing pressure. The rapid pace of socioeconomic change and increased globalization imply that the development of human resources is a national imperative.

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## Education and Society in Historical Perspective

Barbados was a British colony for 339 years until its national independence in 1966.<sup>1</sup> During the first 200 years of British rule, slaves were the primary source of labor in the plantation economy based on the sugar crop. A small minority of the inhabitants of the island who came from very privileged backgrounds were able to gain access to schooling.

The Act of Emancipation of 1833 was a turning point in the history of education of the majority black population. Between 1833 and 1845, the British government helped finance primary schooling for children of the former slaves. Starting in 1845, the colonial government gradually increased its role in funding education, and the country achieved mass primary schooling at the beginning of the twentieth century. During the first half of the twentieth century, the policy of mass primary schooling and highly limited post-primary schooling persisted.

Teacher training for elementary teachers was undertaken at the Rawle Institute from 1912 to 1945. The Rawle Institute was closed in 1945 and the Erdiston College was established in 1948 to train teachers.

In 1959, the government introduced the Common Entrance Examination (also known as the Barbados Secondary School Entrance Examination, BSSEE, or the 11+ examination)

as a more transparent and widely accepted means of selecting students for secondary schools. The top secondary school graduates could receive a government scholarship for undergraduate studies at Cambridge University, Oxford University, or other universities in England. Previously, each secondary grammar school made its own selections through its own individual examinations.

In the 1950s, continued social demand for schooling eventually led to the expansion of secondary schooling and increased institutional differentiation. By the time of the country's national independence in 1966, there were substantial disparities in the quality of different types of secondary schools.

After achieving national independence, the country focused its education system on the transition from a colony to an independent state, and from an elitist society toward a more egalitarian society. Education policy was characterized by expansion of the education system to promote access to schooling for all population groups, with substantial government spending on education. A key target was the attainment of mass secondary education. Subsequent government policy emphasized cost-effectiveness in spending on education. The government reduced spending on education as a proportion of its total spending from 20.2 percent in 1979–80 to 17.0 percent in 1986–87 (Layne 1999: 124). In recent years, the government's education policy has shifted toward improvement in the quality of education.

With 265,000 inhabitants, Barbados today is characterized by a relatively high standard of living; per capita gross domestic product (GDP)

<sup>1</sup> This section is based on the overview of the history of education in Barbados in Layne's (1999) study of education reforms in the country.

**Table 4-1. The Education System in Barbados, 1999–2000**

Subsector	Age of students	Years of school	Enrollment		Entrance requirement <sup>a</sup>
			Total	Female (percent)	
<i>Pre-primary</i>					
Public	3–4	2	4,738	49.2	3 years old
Private	3–4	2	1,056	47.1	3 years old
Total			5,794	48.8	
<i>Primary</i>					
Public	5–11	6	22,238	49.0	5 years old
Private	5–11	6	2,491	49.7	5 years old
Total			24,729	49.1	
<i>Secondary</i>					
Public	9–18	5–7 <sup>b</sup>	20,200	50.3	BSSEE
Private	9–18	5–7	1,641	55.0	BSSEE
Total			21,841	50.7	
<i>Tertiary (public)</i>					
Samuel Jackman Prescod Poly.	19–20	2	2,234	35.4	CXC
Barbados Community College	19–20	2	3,426	65.3	CXC
Erdiston Teachers' College	19–21	Various	657		CXC
University of West Indies	19–21	3	2,564	64.7	GCE "A"
Total			8,881		

<sup>a</sup> BSSEE is the Barbados Secondary Schools' Entrance Examination, CXC is the Caribbean Examination Council examination, and GCE "A" is the advanced level of the General Certificate of Examination.

<sup>b</sup> Secondary schooling covers forms 1–5. Sixth-form education (two years) is available in four sixth-form secondary schools and at Barbados Community College.

Source: Ministry of Education, Youth Affairs and Culture, Government of Barbados.

was US\$8,550 in 1999 (table 1-1). The country has a low level of poverty (14 percent of the population in 1997) and a well-educated labor force (table 1-1). The country's productive base has been shifting from agriculture and light manufacturing toward service sectors such as tourism, data processing, finance, and insurance. This trend toward a more service-oriented economy is likely to continue because of the absence of any substantial economies of scale in manufacturing and the country's relatively high labor costs compared with nearby Caribbean nations.

Within the service sector, tourism constitutes the main source of foreign exchange and accounts for a substantial share of employ-

ment. Tourism receipts account for about 15 percent of GDP, and the sector is likely to remain key, given the country's strong comparative advantage in terms of location and infrastructure and its well-educated and relatively crime-free society.

## The Education System

The current structure of the education system in Barbados traces back to the Education Act of 1981–85. Formal schooling consists of the following four levels: pre-primary, primary, secondary, and tertiary (see table 4-1). The



government provides free public schooling at all levels, and compulsory education covers children aged 5 to 16.

Pre-primary education is geared for children aged of 3 and 4. In 1999–2000, it enrolled 4,738 pupils in public schools and 1,056 in private schools (table 4-1). The gross enrollment ratio (GER) was 68.1 percent in 1997—70.4 percent for females and 65.8 percent for males (Ministry of Education, Youth Affairs and Culture, Government of Barbados).

Six years of primary schooling (infant classes 1 and 2 and junior classes 1–4) are offered to pupils aged 5 to 11. In 1999–2000, there were 22,238 pupils in public primary schools and 2,491 in private primary schools (table 4-1). The GER was 101.3 percent in 1997—102.2 percent for males and 100.3 percent for females (Ministry of Education, Youth Affairs and Culture, Government of Barbados).

Secondary education covers forms 1–5 and is available to students aged 9 to 18. Four secondary schools offer a further two years of pre-university education in form 6. Secondary classes normally enroll students who are 11 years or older, but admissions are allowed for students aged 9 to 11. In 1999–2000, there were about 20,200 students in public secondary schools and 1,641 in private secondary schools (Ministry of Education, Youth Affairs and Culture, Government of Barbados).

Tertiary education is offered by four public institutions: Samuel Jackman Prescod Polytechnic (SJPP), Barbados Community College (BCC), Erdiston Teachers' College, and the University of West Indies (UWI) at the Cave Hill campus. In 1999–2000, 8,881 students were enrolled at this level (table 4-1).

Barbados has pretty much achieved mass secondary education. The BSSEE is used to determine the allocation of students to secondary schools. For admissions purposes, public schools are divided into three zones. Both the examinations of the Caribbean Ex-

amination Council and the General Certificate of Education are used for admissions to tertiary institutions.

The Ministry of Education, Youth Affairs and Culture (MEC) runs the education system. The National Advisory Commission on Education advises MEC on education policy.

## Expenditures and Financing

The total budget for MEC in 2000/01 was 378.65 million Barbados dollars (B\$), consisting of B\$357.77 million (94.5 percent) for education programs and B\$20.88 million (5.5 percent) for youth and cultural programs (Government of Barbados 2000). Table 4-2 shows the distribution of the budget for education programs by subsector. This education budget consisted of B\$298.16 million (83.34 percent) for recurrent expenditures and B\$59.61 million (16.66 percent) for capital expenditures (Government of Barbados 2000). MEC's education budget amounted to 17.51 percent of the total government budget, and MEC's total budget (that is, education plus youth and culture) was 18.54 percent of the total government budget (Government of Barbados 2000).

Expenditures on education and training are also incurred by other government agencies. For example, they include spending by the Ministry of Finance and Economic Affairs on pensions for retired government teachers and spending on vocational training by the Ministry of Labour, Community Development and Sports. In 2000–01, for example, the budget for vocational training amounted to B\$8.58 million (computed from Government of Barbados 2000: 121).

### *Trends in MEC's Expenditure on Education*

MEC increased its nominal total education expenditure from B\$208.21 million in 1991/92 to

**Table 4-2. Government Budget for Education by Subsector, Barbados, 2000–01**  
(Millions of Barbados dollars)

Subsector	Value	Percent
Basic education	131.09	36.64
Secondary education	109.52	30.61
Tertiary education	78.53	21.95
Teacher training	2.92	0.82
Adult education	0.76	0.21
Other <sup>a</sup>	34.95	9.77
Total <sup>b</sup>	357.77	100.00

<sup>a</sup> Other includes direction and policy formulation services and special services.

<sup>b</sup> The total refers to the budget for education programs only; it does not include the allocation for youth affairs and cultural activities, which also falls under MEC.

Source: Government of Barbados (2000).

B\$301.46 million in 1998–99, an annual rate of increase of 5.3 percent (see table 4-3). Real education expenditure in 1990 prices increased only from B\$195.87 million to B\$227.29 million over the same period, an annual growth rate of 2.1 percent. Both nominal and real education expenditure suffered a decline around the mid 1990s because of an economic recession (see

table 4-3). However, this decline does not imply there was less government fiscal support for education. Total government expenditure was reduced from B\$1,350.32 million in 1991–92 to B\$1,312.61 million in 1994–95 before it was increased to B\$1,862.96 million in 1998–99. The increase in the fiscal effort indicator (government education spending as a percentage of to-

**Table 4-3. The Fiscal Effort Indicator for Public Education, Barbados, 1991–99**

Year	Public expenditure (millions of Barbados dollars)		Fiscal effort indicator, (1)/(2) (percent)
	Education (1)	Total (2)	
1991–92	208.21	1,350.32	15.42
1992–93	206.08	1,272.90	16.19
1993–94	235.96	1,276.46	18.49
1994–95	235.91	1,312.61	17.97
1995–96	232.82	1,535.78	15.16
1996–97	252.79	1,533.60	16.48
1997–98 <sup>a</sup>	285.37	1,766.80	16.15
1998–99 <sup>b</sup>	301.46	1,862.96	16.18
Average	244.83	1,488.93	16.51

<sup>a</sup> Revised estimate.

<sup>b</sup> Approved estimate.

Source: Government of Barbados (1996, 1997, 1998, 1999); Government of Barbados, Ministry of Education and Culture (various years).

**Table 4-4. The National Effort Indicator for Public Education, Barbados, 1992–97**  
(Millions of Barbados dollars)

Year	Public education expenditure (1)	Gross domestic product (2)	National effort indicator, (1)/(2) (percent)
1992	206.61	3,556.12	5.81
1993	228.49	3,651.24	6.26
1994	235.92	3,819.26	6.18
1995	233.59	3,976.32	5.87
1996	247.80	4,285.93	5.78
1997	277.23	4,803.05	5.77
Average	238.27	4,015.32	5.95

Note: Estimates are based on expenditures in two budgetary years. For example, expenditure for 1993 equals 0.75 of expenditure in 1993–94 plus 0.25 of expenditure in 1992–93.

Source: Government of Barbados (1996, 1997, 1998, 1999); Government of Barbados, Ministry of Education and Culture (various years); Inter-American Development Bank (1998: 209, 257).

tal government spending) from 15.42 to 16.18 percent during 1991–99 actually reflected increased government attention to education (see table 4-3). The annual average of 16.51 percent for this period was quite in line with the average for developing countries. In 2000–01, the education budget increased to 17.51 percent of the total government budget, reflecting continued government support for the education sector.

The national effort indicator (government education spending as percentage of GDP) was 5.81 percent in 1992 and 5.77 percent in 1997 (see table 4-4). Although there was little change between 1992 and 1997, the indicator was as high as 6.26 percent in 1993. The average for 1992–97 was 5.95 percent, which is much higher than the 4.0 percent average for developing countries and similar to the spending level of developed countries (Tsang 1988; OECD 1999). In summary, the government has consistently given strong fiscal and national support to the education sector.

#### **Utilization of Public Expenditure on Education**

Table 4-5 shows the distribution of MEC expenditures by subsector (“programs” in the gov-

ernment’s budget) for 1994–95 to 1999–2000. A striking pattern that emerges from this table is that the share has increased for lower levels of education and has declined for higher education. For example, the share increased from 25.86 to 32.95 percent for basic education development (for pre-primary and primary education) and from 27.66 to 28.71 percent for secondary education. By contrast, the share for tertiary education declined from 27.23 to 21.65 percent. This pattern is consistent with the government’s emphasis on providing quality basic education for all children in Barbados and increasing efficiency in tertiary education.

Table 4-6 presents information on MEC’s recurrent (“current”) and capital expenditures. The share for recurrent spending increased from 85.42 percent in 1991–92 to 89.68 percent in 1998–99. The share for capital spending lost ground during the early 1990s, when government total expenditure and education expenditure both lost ground. With increasing total and education spending by the government since 1996–97, the share for capital spending also recovered but did not reach its high level of 1991–92. However, the situation changed in the two budgets after

**Table 4-5. Public Education Expenditure by Subsector, Barbados, 1994–2000**  
(Millions of Barbados dollars)

Subsector	1994–95	1996–97	1998–99 <sup>a</sup>	1999–2000 <sup>a</sup>
Administration/policy development	6.59	15.02	8.18	9.44
Teacher training	2.65	2.20	2.80	2.70
Basic education development <sup>b</sup>	63.98	71.16	90.64	115.72
Secondary education	68.42	84.18	93.97	100.83
Tertiary education <sup>c</sup>	67.36	62.60	76.93	76.03
Adult education	4.25	4.97	5.97	4.22
Special services	22.60	20.68	22.97	23.61
Culture/youth affairs and culture	11.52	11.99	16.11	18.67
Total	247.36	272.80	317.57	351.22

<sup>a</sup> Estimate.

<sup>b</sup> Includes pre-primary and primary education.

<sup>c</sup> Includes Samuel Jackman Prescod Polytechnic.

Source: Government of Barbados (1999); Government of Barbados, Ministry of Education and Culture.

1998–99; the share for capital expenditure increased to 15.26 percent in 1999–2000 and 15.96 percent in 2000–01. These significant increases were due to the onset of the Education Sector Enhancement Program; this program alone accounted for B\$45 million of

MEC's B\$60.42 million total capital budget in 2000–01. This program was part of basic education, which increased its share of the total education budget to 36.64 percent (computed from information in Government of Barbados 2000).

**Table 4-6. Recurrent and Capital Expenditure by MEC, Barbados, 1991–2001**  
(Millions of Barbados dollars)

Year	Recurrent		Capital		Total
	Value	Percent	Value	Percent	
1991–92	211.71	85.42	36.13	14.58	247.83
1992–93	191.97	89.27	23.08	10.73	215.06
1993–94	230.48	96.84	7.53	3.16	238.01
1994–95	227.41	91.93	19.96	8.07	247.37
1995–96	221.68	92.96	16.79	7.04	238.47
1996–97	228.48	87.84	31.63	12.16	260.11
1997–98 <sup>a</sup>	259.69	88.39	34.13	11.61	293.81
1998–99 <sup>a</sup>	284.79	89.68	32.78	10.32	317.57
1999–2000 <sup>a</sup>	297.62	84.74	53.60	15.26	351.22
2000–2001 <sup>a</sup>	318.22	84.04	60.42	15.96	378.64
Average		89.11		10.89	

<sup>a</sup> Estimate.

Note: Values include expenditures on youth affairs and culture.

Source: Government of Barbados, Ministry of Education and Culture.

**Table 4-7. Public Expenditure Per Student on Education, Barbados, 1995–97**

Subsector	1995–96	1996–97	Average 1995–97
<i>1995 Barbados dollars</i>			
Basic education <sup>a</sup>	2,755	2,464	
Secondary education	3,393	3,563	
Tertiary education <sup>b</sup>	7,310	7,212	
<i>Relative unit cost</i>			
Basic education <sup>a</sup>	1.00	1.00	1.00
Secondary education	1.23	1.45	1.34
Tertiary education <sup>b</sup>	2.65	2.93	2.79

<sup>a</sup> Includes pre-primary and primary education.

<sup>b</sup> Includes Samuel Jackman Prescod Polytechnic.

Source: Computed from data from Government of Barbados (1998) and Government of Barbados, Ministry of Education and Culture (various years).

### Unit Expenditures on Education

Table 4-7 shows per student expenditures and relative unit costs for three education subsectors for 1995–96 and 1996–97. The data indicate that real spending per student actually declined for basic education (covering pre-primary and primary education) and for tertiary education, but increased for secondary education. The small decline for higher education was due to a larger increase in enrollment relative to spending. The decline for basic education was a larger drop in spending relative to enrollment. The increase for secondary education corresponds to a significant increase in spending accompanied by a slight increase in enrollment.

During 1995–97, relative unit costs averaged 2.79 for tertiary education and 1.34 for secondary education, with basic education as the reference (table 4-7). Relative costs were substantially lower in Barbados than in other Caribbean countries and similar to those in industrial countries (Tsang 1988). In general, in terms of fiscal and national spending effort, as well as the pattern of spending across subsectors, Barbados is much closer to industrial than to developing countries.

### Private Expenditures and External Resources

Although the government does not charge tuition in public education institutions and does provide financial assistance to some students, most families still have to pay for school uniforms, shoes, books, and other costs. Estimates from MEC indicate that in 1997 total direct private costs amounted to B\$460 per student, which was equal to 16.9 percent of government spending on basic education per student. At the secondary level, total direct private costs ranged from B\$755 to B\$1,355 per student, corresponding to 19.2 percent to 34.4 percent of government spending on secondary education per student (table 4-8).

Private education accounts for about 9 percent of total enrollment at the pre-primary, primary, and secondary levels (see table 4-1). Several quasi-formal private institutions provide tertiary education. For example, the Barbados Institute of Management and Productivity offers management and supervisory training for participants from both the public and private sectors.

Most of the enterprises and companies in Barbados are small and seldom provide formal



**Table 4-8. Direct Private Costs of Schooling, Barbados, 1997**  
(Barbados dollars)

Direct private costs	Primary	Secondary	
		High estimate	Low estimate
<i>Family spending</i>			
Uniforms	110	240	240
Sports clothing	0	60	60
Shoes	85	85	85
School bags	40	50	50
Books, workbooks, and stationery	225	320	320
Transportation <sup>a</sup>	0	300	0
Meals <sup>b</sup>	0	300	0
Total	460	1,355	755
Government spending per student	2,722 <sup>c</sup>	3,936	3,936
Family spending as percentage of government spending per student	16.9	34.4	19.2

<sup>a</sup> Most pupils in public primary schools walk to school. Some students in public secondary schools use public transportation.

<sup>b</sup> School meals are provided for pupils in public primary schools. Public secondary schools do not provide school meals. Some assistance is provided for families with financial difficulties.

<sup>c</sup> The unit cost refers to pre-primary and primary education.

Source: Estimates by Government of Barbados, Ministry of Education and Culture.

training programs for their employees. Some private firms do provide training or give financial assistance to their employees for attending external programs such as those offered by the Institute of Management and Productivity. However, there is a lack of information on the costs of formal and informal training provided by employers. The government remains the major source of funding for employee training. In 1994–95, the government set up the Technical and Vocational Education and Training Council to manage a training grant (funded by contributions from firms equal to 0.25 percent of the wage bill). MEC has a program for continuing and adult education that provides basic-skills training as well as other education opportunities.

Barbados relies on multilateral development agencies for financing some of its education projects and programs. The Inter-American Development Bank (IDB) and the Caribbean Development Bank (CDB) have been the most im-

portant external funding agencies in recent years. For example, the IDB, the CDB, and the Government of Barbados are partners in financing the EduTech 2000 project. The CDB is also providing a loan to the government to support a secondary education project.

## Critical Issues

There are three critical issues in education in Barbados: quality, access, and financing and spending.

### Quality

The country has basically achieved universal secondary education. The government has turned its attention to improving the quality of primary and secondary education. One indicator of the quality of primary education is pupil

**Table 4-9. Mean Scores on the Barbados Secondary School Entrance Examination by Subject and Gender, Barbados, 1994, 1995, and 1998**

Gender	Mathematics			English		
	1994	1995	1998	1994	1995	1998
Boys	52.3	44.6	49.3	47.9	46.2	45.3
Girls	59.6	50.8	56.0	57.0	54.9	53.8
Total	55.9	47.6	52.6	52.4	50.4	49.5

Source: Government of Barbados, Ministry of Education and Culture (1995).

achievement on the BSSEE. Table 4-9 shows that the overall (for both boys and girls) mean score in mathematics declined from 55.9 in 1994 to 47.6 in 1995 and recovered somewhat to 52.6 in 1998. The overall mean score in English declined from 52.4 in 1994 to 50.4 in 1995 and 49.5 in 1998. Both boys and girls experienced the declining performance, although girls outperformed boys in both subjects.

An additional concern is that more than one-fifth of the students scored below 30 points (out of 100) in this examination (see table 4-10). Experience has shown that such low-scoring students continue to perform poorly in secondary schools (Government of Barbados 1995). In fact, before 1995, most of the low-scoring students were placed in composite and senior schools. These schools constituted the "low-quality" segment of secondary schooling in Barbados, which had inadequately trained teachers, insufficient funding, poor equipment and facil-

ities, and students who were unmotivated and had low self-esteem. During 1995–96, the composite schools (except two) were converted into primary schools as more secondary places became available. Senior schools were closed; one of them remains open to emphasize remediation and teach life skills. To provide quality basic education for all students, it is important that high priority be given to improving the learning achievement of primary students.

The Caribbean Examination Council (CXC) examination is used to assess the performance of students completing the secondary cycle (forms 1–5) and to select students for the four 6th-form schools and BCC. Achieving a satisfactory grade (grades I and II on a scale of I to V before 1998, with I being the highest and V the lowest grade) on the CXC exam is essential for post-secondary schooling and for employment. Since 1998, the CXC has changed its grading scheme so that grades I to III are

**Table 4-10. Students with Low Scores in English on the Barbados Secondary School Entrance Examination, 1994–95**

Students	1994	1995
Number scoring below 30 points	958	915
Total number taking exam	4,444	4,087
Percentage scoring below 30 points	21.6	22.4

Source: Computed from Government of Barbados, Ministry of Education and Culture (1995).

**Table 4-11. Satisfactory Performance in Selected Subjects on the Caribbean Examination Council Examination, Barbados, 1994 and 2000**  
(Percentage of students)

Subject	1994	2000
English	58.5	67.5
Mathematics	49.9	63.7
Biology	31.4	65.0
Chemistry	42.5	65.1
Physics	62.3	55.3

Note: Values are for students receiving grades I and II in 1994, and grades I, II, and III in May–June 2000.

Source: Computed from Government of Barbados, Ministry of Education and Culture (1995) and Caribbean Examination Council (2000).

satisfactory (with grades IV to VI being unsatisfactory) and are now acceptable for post-secondary admissions. As shown in table 4-11, the proportion of students achieving a satisfactory grade varied significantly across subjects. For example, in 1994, only 31.4 percent of students taking the general biology examination achieved a satisfactory grade, while 62.3 percent of students taking the general physics examination had satisfactory performance. In other words, between 40 and 70 percent of students did not achieve a satisfactory grade in various subjects on this examination in 1994. In 2000, about one-third of the students did not have satisfactory grades.

Education observers point out that the CXC examination (general level) is useful for assessing high-performing students and thus for selecting students for further schooling. However, a level-III grade on the CXC examination does not imply that a student has not achieved some minimum level of learning in secondary school. Thus, an alternative certification scheme for assessing the learning achievement of secondary students is needed.

In addition to unsatisfactory achievement, suspension and expulsion of students in secondary schools due to deviant behavior disrupt MEC's efforts to achieve quality education for all students. MEC estimates that a

significant number of secondary students are at risk of deviant behavior resulting from a range of social, emotional, and behavioral problems. Simply suspending or expelling these students from school does not alter their deviant behavior and hinders achievement of further personal development and desirable education goals. An out-of-school suspension program has been established to provide counseling to concerned students and parents.

Until recently, the primary and secondary school curricula were clearly outdated and did not adequately incorporate the learning of important knowledge and skills necessary for effective participation in a changing society. Like most students in other countries, students in Barbados were exposed to teacher-centered pedagogy. Educators in Barbados recognized that there was a need to strengthen students' knowledge and skills related to information technology and cross-cultural communication, and to promote the acquisition of problem-solving and critical thinking skills. During 1997–2000, MEC revised the primary and secondary curricula to address these education needs.

Teachers' morale has been on the decline in recent years because of a multiplicity of factors, including the negative impact on education due to the structural adjustment poli-

cies in the early 1990s, a limited career path, and lack of professional development opportunities (Government of Barbados 1995). In addition, according to MEC, about 20 percent of secondary teachers are untrained and are thus not adequately prepared for their teaching assignments. Motivating teachers and improving their teaching capacity are essential elements in the overall effort to improve the quality of primary and secondary education.

### **Access**

Although the government has made substantial progress in expanding the education system and meeting the country's national development needs, limited access remains a problem in early childhood, tertiary, and adult and continuing education.

In recent years, countries in the Caribbean region, including Barbados, have recognized the importance of early childhood education in children's early development and in preparing them for primary schooling. In fact, as early as 1987, MEC began admitting some pre-school children into primary schools with extra rooms. And by 1996–97, about 5,200 children aged 3 to 4 years were enrolled in public pre-school programs, with a coverage rate of 68.1 percent (Pence 1999). The coverage rate for this age group has reached more than 85 percent (Pence 1999). However, this subsector requires improved staff training programs and coordination among different providers (Pence 1999).

With the achievement of universal access to secondary education, there is strong social demand for expansion of post-secondary education. According to MEC's estimates, BCC and the four sixth-form schools have sufficient capacity in the near term for students with satisfactory scores (grades I to III) in at least five CXC subjects. But expansion of enrollment at BCC and SJPP is still necessary to accommo-

date future increases in certified secondary students and to provide learning opportunities for noncertified secondary students.

Two important areas require expansion of adult and continuing education programs. First, some adults, for a variety of reasons, miss out on obtaining a basic education and need a "second chance." Second, some adults need to update or upgrade their education to adapt to changes both inside and outside the workplace, and thus require access to continuing education.

### **Financing and Spending**

The government has consistently demonstrated strong financial commitment to education, as reflected in the indicators of fiscal and national effort. The government also understands that it has to pursue a balanced approach in its budgetary allocations to education and other sectors. As the government addresses the issues of quality and access, it will likely need additional resources to implement the associated interventions. An added concern is the cost of maintenance and repair of substandard physical facilities in many primary schools. In short, financial pressure will mount in the education sector.

Part of the financial pressure can be traced to the government's policy of free tertiary education for nationals. In particular, the cost of university education (at UWI) alone accounts for more than half of the total budget for tertiary education. The cost per student of university education is substantially higher than that for other tertiary institutions. For example, the unit cost was B\$19,104 for the Cave Hill campus of UWI and only B\$3,593 for BCC in 1994–95 (Government of Barbados 1995: 105). Although university students in other Caribbean countries typically pay a tuition fee equal to about 10–15 percent of the economic cost of university education, students in Bar-

badors do not have to pay this fee. Given the political popularity of a national policy of expanding access to tuition-free tertiary education and the need to maintain education quality, the demand for increasing resources for tertiary education will continue. The government is reluctant to increase cost recovery in higher education because it thinks that the administrative cost of implementing a cost-recovery scheme could be relatively high. It is also willing to spend more on higher education because of its high priority for this subsector of education. It thinks that the financial demand will be dampened with greater articulation between education institutions.

Observers point out that the high unit cost of the Cave Hill campus indicates internal inefficiency in university education due primarily to underutilization of available capacity. If the Cave Hill campus were to accommodate additional students, its unit cost would drop. However, the school must exercise caution and not lower admission standards. In addition, the tertiary subsector is still a collection of separate institutions, with little articulation of programs across them. The cost of a four-year college education would be substantially reduced if more students completed their first two years in the lower-cost institutions. The government agrees that cost reductions could be achieved by improving the rate of advancement of students from community colleges to universities. Finally, the tertiary education subsector could improve external efficiency by offering a greater variety of market-driven programs.

## Policies and Financing Strategies

After a sharp economic decline during the early 1990s, the economy grew at an average annual rate of about 3.5 percent, or 3.0 percent in real per capita terms (Inter-American Development Bank data). Following significant fiscal

adjustments and tight monetary policies in 1991–93, the authorities managed to keep inflation under control. After reaching 4.2 percent in 1997, in part due to the initial temporary effects resulting from the introduction of a value-added tax that year, the rate of inflation was reduced to 1.6 percent in 1999 and is expected to remain broadly in line with changes in U.S. consumer prices over the medium term.

Barbados has long had a fixed exchange rate system pegged at B\$2.00 per U.S. dollar. The authorities have been able to maintain this fixed rate, despite several negative external shocks, thanks to their strong long-term commitment to sound fiscal and monetary policies. Traditionally, the country's negative trade balance has been compensated by surpluses in the service balance resulting from substantial tourism-related net receipts. However, the country's gradual loss of competitiveness during the 1980s, coupled with a bunching of external debt repayments and the sudden drop in tourist arrivals after the onset of the Persian Gulf crisis, resulted in a steep deterioration in its external position in 1989–91.

In September 1991, with foreign exchange reserves down to a little more than one week of imports, the government adopted a broad adjustment program. Its emphasis was on restoring short-term financial stability while preparing the way for the implementation of structural reforms to improve competitiveness and create the conditions for renewed economic growth. By 1992, although GDP contracted by 5.7 percent and unemployment reached 23 percent of the labor force, the fiscal deficit was brought to about 2 percent of GDP and the external current account posted a large surplus of 9.0 percent of GDP (Government of Barbados 1998; Inter-American Development Bank data). As a result, net international reserves quickly recovered and now stand at some US\$300 million, equivalent to about three months of imports. In addition, after peaking at US\$703 million in 1988, public external debt



declined to about US\$400 million in 1999, dropping from 46 percent to 16 percent of GDP, and the external debt service ratio decreased to about 12 percent. The consolidated public sector fiscal balance improved in the last six years of the 1990s, averaging a surplus of about 0.6 percent of GDP between 1994 and 1998; the level of domestic debt also gradually declined, from about 45 percent of GDP in 1992 to about 41 percent of GDP by 1999.

However, the fiscal and external accounts seem to have weakened somewhat recently, mainly because of public sector salary increases, higher levels of government transfers aimed at poverty alleviation interventions, and slower growth in the tourism sector. In 1999, the consolidated public sector showed a deficit of about 0.6 percent of GDP, and the external current account balance posted a deficit equivalent to 3.2 percent of GDP (Government of Barbados 1998; Inter-American Development Bank data). In this context, the government has indicated its intention to restrain its capital expenditure program in the short run in order to facilitate an increase in reserves, protect the exchange rate against speculative attacks, and ensure the continuation of macroeconomic stability and growth over the medium and long term.

The sustained economic recovery of recent years contributed to a substantial reduction in unemployment during the 1990s, with the unemployment rate falling from 25 percent in 1992–94 to around 10.4 percent in 1999 (Government of Barbados 1998; Inter-American Development Bank data). Despite this achievement, the country still suffers from very high levels of youth unemployment, a pattern also observed in several other Caribbean nations. Part of the problem seems to relate to the current structure of the education system. On one hand, it ensures that the vast majority of new entrants to the labor market will have completed secondary school; on the other hand, it leaves the vast majority of them with-

out any school-leaving education certificate recognized in the labor market. Moreover, although male unemployment has fallen to a low of 7 percent, mainly because of the strong growth of construction-related activities, female unemployment has increased to 17.4 percent, primarily due to job losses arising from recent closures of low-end data-processing firms (Government of Barbados 1998; Inter-American Development Bank data).

### ***Emerging Issues***

Conceptually, the education response to the current and emerging challenges consists of three sets of strategies: achieving quality basic education for all; developing an efficient and sustainable system of tertiary education institutions; and improving the responsiveness and flexibility of the education system.

First, achieving quality basic education for all refers to education from early childhood classes to form 5. The major goal of basic education is to equip individuals with the necessary basic knowledge and skills so that they can participate effectively in the economic, social, and political aspects of life (Inter-Agency Commission 1990). The completion of basic education should enable an individual either to seek higher education or to obtain gainful employment and be able to learn throughout life.

In Barbados, the strategy for achieving quality basic education for all should have two major emphases: targeting low-achieving students and providing needed assistance early in the basic education process, and reforming pedagogy and updating curriculum throughout basic education to promote critical learning skills and other core competencies. Specific interventions may include the following:

- Improving coordination among providers of early childhood education and strengthening teacher training at this level

- Developing assessment mechanisms for primary schools to evaluate and monitor pupil learning and to identify students with learning problems
- Designing and implementing comprehensive school-level interventions to promote learning in schools with a concentration of students with learning problems
- Updating the basic education curriculum and developing a process for periodic review and revision
- Reforming pedagogy in conjunction with the curriculum and textbook revision, so that instruction becomes more student-centered and teachers acquire an increasing role as facilitators of learning
- Strengthening and modifying teacher education so that teachers can employ new pedagogical methods and effectively assist students with learning problems
- Developing the mechanism for assessing and certifying the learning achievement of students completing secondary schooling
- Developing and strengthening the use of information technology in basic education
- Raising teachers' morale and their teaching capacity
- Focusing secondary schools on general skills.

The second emerging challenge is to develop an efficient and sustainable system of tertiary education institutions. Tertiary education is geared toward preparing the high-skilled personnel necessary for a competitive economy and leaders for various spheres of society. The key challenges are to improve the efficiency of the tertiary subsector and to manage financially sustainable expansion of the subsector without sacrificing quality. Specific interventions may include the following:

- Clearly articulating programs and coordination among tertiary institutions so that

they become a more rationalized system of tertiary education

- Managing the expansion of post-secondary education by expanding programs mostly in BCC and SJPP
- Reducing the unit cost of university education in appropriate fields by having students complete the first two years of studies at BCC
- Rationalizing programs and enrollments in the UWI system to more fully utilize available capacity
- Encouraging the development of private institutions
- Devising and implementing a financing scheme to ensure the financial sustainability of the tertiary subsector
- Developing and strengthening a system of accreditation.

The third challenge is to improve the responsiveness and flexibility of the education system. The goals are to enhance the linkages between education (and training) institutions and the productive sector and to diversify education and job training paths. The subsector can achieve these goals by developing a system of demand-driven vocational-technical education and training and by developing both continuing and alternative education programs. Specific interventions may include the following:

- Focusing the development of vocational-technical education in post-secondary institutions such as SJPP and BCC, not in secondary institutions
- Strengthening coordination among the Barbados Vocational Training Board, employers, and various post-secondary institutions concerned with vocational-technical education
- Expanding adult programs to provide both "second-chance" education and continuing education opportunities for adults
- Encouraging both public and private institutions to deliver programs.

**Table 4-12. Financing Strategies and Options, Barbados**

Strategy	Options
Mobilize additional	<ul style="list-style-type: none"> <li>• Increase government spending on education (for example, gradually, over a period several years, raise the fiscal effort by about 2 percentage points from 16.2 percent in 1998–99.</li> <li>• Institute cost recovery in public tertiary education.</li> <li>• Promote community/private sector support for school maintenance and repair.</li> <li>• Encourage additional private sector involvement in the delivery of education services, particularly in tertiary, early childhood, and vocational-technical education and training.</li> </ul>
Increase efficiency	<ul style="list-style-type: none"> <li>• Increase utilization of available capacity at the Cave Hill campus of the University of West Indies.</li> <li>• Increase articulation and collaboration in tertiary education and reduce the unit cost of university education while maintaining quality.</li> <li>• Enhance the market responsiveness of programs offered by Barbados Community College, Samuel Jackman Prescod Polytechnic, and the University of West Indies.</li> <li>• Develop a mechanism (acceptable to educators and employers) for certifying the learning achievement of secondary school leavers.</li> </ul>
Target uses of education resources	<ul style="list-style-type: none"> <li>• Improve the learning achievement of at-risk students in primary schools.</li> <li>• Improve the quality of education in the “customized” secondary schools for low-achieving students and focus the curriculum primarily on basic general education.</li> <li>• Increase the use of new education technology in instruction at various education levels.</li> <li>• Develop and strengthen selected programs in tertiary and vocational-technical education (such as information technology and tourism).</li> </ul>

### **Financing Strategies and Options**

The three major financing strategies are mobilizing additional education resources from various sources, utilizing education resources more efficiently, and targeting resources on high-priority programs and interventions (see summary in table 4-12). The first strategy, financing expansion and quality improvement efforts in education, will require additional resources that could be mobilized from both government and nongovernmental sources. Given that the government has already provided strong support for education over the years, substantially more government spending on education would likely crowd out government spending in other essential sectors. Thus, additional government spending, in terms of an increase in fiscal effort, should be rather modest. For example, the government could increase its fiscal-effort indicator from

16.2 percent in 1998–99 gradually over a period of several years to around 18.0 percent, the level of the early 1980s and early 1990s.

Students, households, local communities, and the private sector could provide additional resources for the education sector. Since much of the benefit of tertiary education accrues to the individual, students and their families should be partners in financing education at this level (World Bank 1995a). Given the government’s commitment to expand access to tertiary education without sacrificing quality, the financing scheme will need to include cost recovery (and efficiency gains). A first step may be to establish a tuition level comparable to that in other Caribbean countries. Financial assistance may be provided to students from poor backgrounds, and the feasibility of a student loan program may be explored.

Families and local communities could play an important role in supporting the maintenance and repair of primary schools. Such support could be in cash or in kind. The government has already begun an “adopt a school” program to have various community organizations contribute to school maintenance and repair. Such a program is beneficial not only because it will bring much-needed resources to education, it will also likely strengthen the school-community relationship that is often an essential part of the foundation of a functioning school. And the private sector could play a larger role in the delivery of education services, especially in tertiary, vocational-technical, and early childhood education.

The second financing strategy is to improve efficiency in education. Interventions to improve efficiency should accompany resource mobilization; otherwise, additional resources would likely be wasted or not used cost-effectively. Improvement in internal efficiency should focus on the tertiary subsector, particularly regarding the underutilization of capacity at the Cave Hill campus of UWI and reducing the unit cost of university education. Certification of secondary school leavers and increased market responsiveness of programs in post-secondary institutions may enhance external efficiency.

The third strategy, targeting uses of education resources, is meant to ensure that adequate resources reach high-priority programs or interventions in the education sector. Examples include interventions to improve the learning of low achievers in primary and secondary schools, programs with strong market demand (such as tourism and information technology), and increased use of new technology in education.

## Strategies for the Future

The government has an articulated national development policy that recognizes the primary importance of maximizing the productivity of its most abundant resource, its people. Its strategy for economic expansion identifies knowledge-based and skill-intensive industries where size, geography, and available capital are not the major factors affecting the country's ability to compete globally, but where a skilled workforce, capable of fueling the continued expansion and diversification of the economy, is essential. To accomplish this goal, the government has given education high priority so as to ensure that all citizens are readily trainable at any stage of their lives. In recent years, the government has moved decisively to address some of the key issues discussed in this chapter, including updating the school curriculum and reforming pedagogy during 1997–2000.

The government views widespread mastery of essential knowledge, skills, and attitudes among its youth as critical to the achievement of a modern economy. Beginning in 1998, it initiated a comprehensive program of education reform, EduTech 2000, to ensure that the teaching methodology and materials used in the schools reflect the shift that is taking place in the structure of the economy. Ultimately, EduTech 2000 will contribute to the production of a better-educated workforce with a greater level of employable skills, increased productivity, and competitiveness at the national and international levels.

The education system lags behind the shift in the economy to more service-oriented and knowledge-based industries, which began as long ago as the mid 1970s. Many schools continue preparing youths for an agrarian economy in which they would be expected to take instructions well and not to think critically for themselves. Existing teaching practices are

not sufficiently conducive to the government's national development objective. The average classroom is ill equipped to facilitate the development of the type of student required to function in the workforce of the future. Similarly, the minimal use of existing technology has been counterproductive in a society already widely utilizing these systems in homes and offices. To catch up with trends in the economy, the schools must radically change, adopting alternative teaching approaches and integrating available technologies.

In a recent White Paper, MEC has a formally articulated policy in favor of a shift toward a child-centered, process-oriented approach (Government of Barbados 1995). This type of education would provide citizens with the necessary skills and tools to fully participate in a global economy heavily dependent on information technology and the provision of services. The White Paper reflects MEC's consultations with various stakeholders and provides the conceptual framework for the comprehensive education sector reform that was launched in 1995. The White Paper emerged out of the need to adopt a coherent set of strategic measures aimed at improving the relevance and effectiveness of the national curriculum, pedagogy, teaching practices, and assessment mechanisms for diagnosing and meeting the learning needs of both high and low-end achievers. This process has resulted in the definition of a strategic action plan for reforming the education system.

The reform is driven by the government's commitment to a paradigm shift in the teaching and learning process, from a traditional system that is predominantly teacher-centered to a modern one that is student-focused. Since 1995, MEC has put in place a set of coordinated, ongoing quality and equity enhancement measures to improve overall system

performance and output. These actions include the following:

- Strengthening diagnostic and remedial services beginning at age 5
- Reformulating the national schools curriculum (which had not been revised since 1977)
- Expanding early childhood education from its current rate of 70 percent to improve equity and enhance access
- Increasing expenditure on school maintenance
- Introducing criterion-referenced testing, including achievement testing for mathematics and English
- Planning for the introduction of a national secondary school certificate that recognizes competency in subjects and skills
- Increasing access to teaching and learning materials through expansion of the audio-visual resource center
- Strengthening MEC's capacity to monitor, implement, and support the reform, including private sector involvement
- Providing continuous teacher training
- Shifting pedagogy to a child-centered, results-oriented approach
- Creating an enabling physical environment
- Introducing information technology into the system.

### ***Information Technology and EduTech 2000***

In 1998, the government of Barbados approved a seven-year US\$213.1 million Education Sector Enhancement Program (EduTech 2000) to help implement the education reform outlined in the White Paper. The IDB and the CDB have collaborated closely with the government in the design of the program and in the provision of financial resources. At the heart of the program is the government's vision that information technology is central to addressing the special needs of individual students, the acquisition of



knowledge skills, the development of technological literacy, and the attainment of broad sector goals. Through EduTech 2000, resources will be provided for the following actions:

- The physical rehabilitation of all 103 public primary and secondary schools in the country
- The gradual computerization of all schools
- The development and training of more than 4,000 education professionals to facilitate the shift in pedagogy and to guide the integration of information technology into the teaching and learning process
- The systematic integration of teaching and learning strategies that maximize the potential of information technology.

There has been considerable debate around the world on the extent to which the introduction of information technology adds value to education. And when it comes to using international development funds to finance computers in schools, issues dealing with opportunity cost, equity, and sustainability often intensify the discussion. The difficulties in assessing the impact of information technology foster the controversy. It is now generally accepted that technology alone cannot improve teaching and learning; meaningful use of computers requires significant changes in the whole education environment.

In conducting evaluations to assess the impact of computer use, it is not easy to separate education gains attributable to computers from gains resulting from other changes. There is evidence that information technology can help improve student performance as measured by traditional tests. However, it is becoming increasingly clear that “technology” generates the strongest gains when measured by different sets of outcomes, the development of higher-order student capabilities, and the collaborative and interactive learning skills they enable (Fitzgerald, Higes, and Fitzgerald 1996).

The intensive use of computers in education entails financial risks because computers consume resources that could be used for alternative purposes, such as books or teachers. There are also pedagogical risks because teachers and students might misuse computers, and administrators might attempt to use them as a replacement for teachers. The experience accumulated over the past few years has shown some valuable lessons on how to use and how not to use computers. It is now clear, for instance, that it is important to have a well-planned, well-paced, and continuously monitored computer introduction process; that machines cannot replace teachers; and that teacher training, participation, and commitment are essential.

Embracing computers in education also opens up new pedagogical opportunities. Computers could play a critical role as agents of change in education, and some believe they could help bring about a new paradigm in education. Following this view, only those countries able to introduce students to the ways of thinking of the information age will be able to position themselves at the forefront of future development. For this reason, countries such as Israel and Singapore, and to a certain extent the United States and the United Kingdom, have accepted the risks and embraced the massive infusion of computers in their education systems. Israel and Singapore, like Barbados, lack substantial natural resources. For them, investing in their people is the only development alternative.

However, widespread introduction of information technology in primary and secondary schools through the EduTech 2000 initiative should not be expected to result in the rapid growth of information technology-intensive industries. Although more school leavers will have been exposed to information technology in their schools, this is probably not an important element in determining the relative attractiveness of particular countries for in-

formation technology-intensive economic activities. The availability, quality, and costs of middle and upper-level information technology personnel—programmers, systems analysts, and software engineers—are likely to be more important. Evolution of the economy toward information technology-intensive activities would require substantial investments to expand post-secondary training opportunities and improve the country's overall competitiveness for prospective investors in the information technology sector.

Widespread infusion of information technology in the schools' curriculum can be expected to make graduates potentially more productive in most mainstream activities in the economy, leading to higher investment and profitability levels, more rapid growth, and greater employment.

The government is fully aware of the risks and opportunities associated with a massive infusion of technology in education, and it is committed to ensuring that this initiative is rigorously monitored, effective, and sustainable. Barbados views the EduTech 2000 program as a critically important development for remaining educationally and economically competitive in the skills-intensive economy of the twenty-first century.

### **Other Initiatives**

The Primary Education Improvement Program, approved in 1993, has three objectives: improving the quality of primary education;

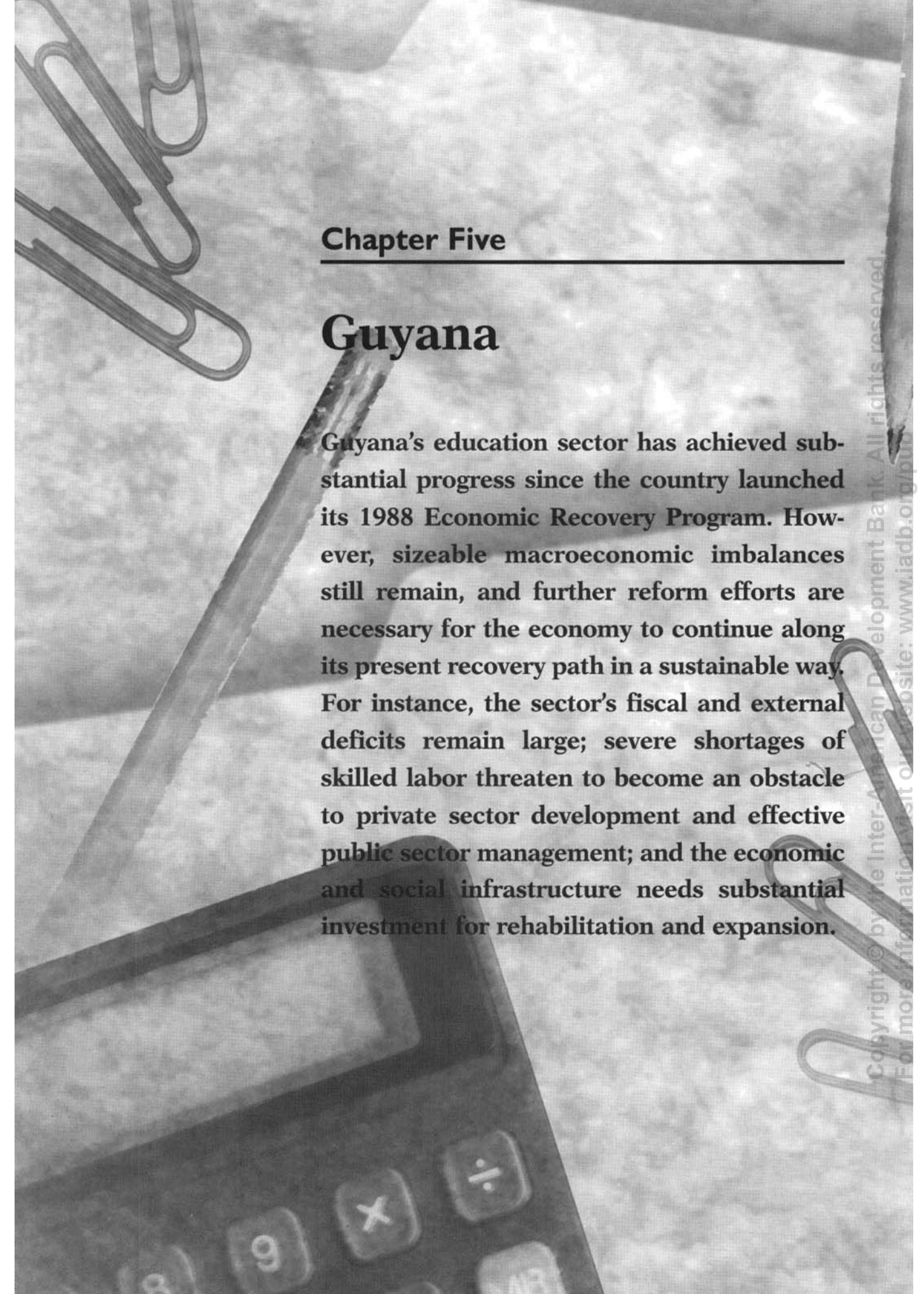
increasing cost-effectiveness at the primary level; and strengthening the capacity of MEC for planning, evaluation, and operation of the primary sector. The program's major activities include amalgamating eight small schools into four new, larger, and better-equipped schools; providing textbooks and teachers' reference manuals; and strengthening MEC.

Projects financed by the CDB and the European Development Fund, among others, have provided support for a range of initiatives in human resource development and training. In 1995, the CDB approved a loan under the secondary education project to upgrade and construct secondary school facilities, strengthen teacher training in information technology, and support special needs. This project was scheduled for completion in the year 2000. The European Development Fund has also supported human resource development through the establishment of a hospitality industry training institute and the provision of training.

The International Bank for Reconstruction and Development (IBRD) has played an important role in the development of the sector in the past. However, due to its high income per capita (US\$7,047 in 1996), Barbados' scope for receiving IBRD assistance has been reduced substantially.

Other initiatives deemed important by the government include efforts to strengthen early childhood education, improve the rationalization of tertiary education institutions (particularly through the National Accreditation Board), and increase access to tertiary education.

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## Chapter Five

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# Guyana

Guyana's education sector has achieved substantial progress since the country launched its 1988 Economic Recovery Program. However, sizeable macroeconomic imbalances still remain, and further reform efforts are necessary for the economy to continue along its present recovery path in a sustainable way. For instance, the sector's fiscal and external deficits remain large; severe shortages of skilled labor threaten to become an obstacle to private sector development and effective public sector management; and the economic and social infrastructure needs substantial investment for rehabilitation and expansion.

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A factor constraining the public sector's investment capacity is the marked deterioration in the quality of public service, mainly the result of a drastic contraction in real public sector wages and the compression of wage scales, which has particularly affected higher-level staff. While the difficult fiscal situation effectively limits the government's options, it will be essential to continue raising and decompressing salary levels, rationalizing the public sector, and incorporating much-needed skilled personnel in public service. Increased public sector efficiency also requires implementing better expenditure management and control systems.

To effectively deal with these problems, the government will continue to require considerable external assistance, including additional reductions in debt and debt service. It will also need to increase net revenues by further expanding the tax base and strengthening tax and customs administration. User charges and other cost-recovery measures could contribute not only to enhance efficiency in the delivery of public services, but also become an important source of revenue that could be used to improve and maintain the quality of those services. Nevertheless, given the sheer size of the capital outlays required, even if the government achieves further debt relief and a net increase in revenues, this alone is likely to fall far short of the amount of resources needed for investment.

Therefore, it is important for the government to continue to move forward in the privatization process and to adopt steps to improve the political and economic environment for private sector development, building on

the significant progress already attained. Without attracting significant levels of foreign investment and expertise, particularly for sugar, timber, and mining operations (where Guyana has a huge potential), it will be very difficult for the country to sustain future growth, exports, and employment.

It should be noted that the first democratically elected government that has been in power since 1992 favors efforts to bring about improvement in living standards to citizens from a broad cross-section of society. The increased political commitment for education has resulted in significantly more government resources for this sector.

These changes external to the education sector present new challenges and opportunities. Education is increasingly seen as an important vehicle for contributing to economic competitiveness and increased national output, social equality, and democracy. These challenges for education are likely to escalate over time because of a changing environment influenced by rapid scientific and technological advances and the globalization of economic production. As stated explicitly in the government's education policy document (Government of Guyana 1995a: 10), education's goal is to "inculcate in children knowledge, skills, discipline, values, adaptability, and the capacity to think critically and act creatively, in the interest of their personal growth and development as well as that of their society and nation." To achieve this broad education goal, a quality basic education program is essential. The focus of government education policy is the delivery of this program to all children. Balanced educa-

tion policy also requires attention to post-basic education that serves other national development needs of the country, including the restructuring and selective expansion of technical education and vocational training.

## Education and Society in Historical Perspective

During the period of colonization under British rule, features similar to those in the British West Indies characterized education in Guyana (Williams 1973). These included, for example, an academic curriculum in elementary and secondary schools, a schooling system driven by external examinations, intense competition for access to post-primary education, lack of diversity in secondary education, a schooling system serving the needs of the colonial elite, and a shared authority between the government and nongovernmental (especially religious) bodies.

Education went through several major changes after national independence. In 1976, the government took control of the education sector from nongovernmental bodies. Unlike in Barbados, Jamaica, and Trinidad and Tobago, in Guyana the government is solely responsible for education (Carrington 1978). This change in governance had particular implications for the financing of education. The financial difficulties faced by the government in much of the post-independence period meant that the availability of government resources constrained the development of education.

Secondary education became more diversified, with both academic and vocational/technical schools. Secondary enrollment also expanded to meet increased social demand. And, unlike the other Caribbean countries that jointly operate the University of West Indies, Guyana devoted its own resources to the development of the University of Guyana to address its own educational needs. Both

universities use the Caribbean Examination Council (CXC) examination for admissions.

Changes in socioeconomic and political developments in recent decades drastically affected the national context for educational development. In the late 1960s and 1970s, Guyana was adversely affected by the extensive nationalization of schools, banks, and foreign firms; by pervasive state intervention in the economy, including price and exchange controls; and by increasing macroeconomic mismanagement, with economic difficulties intensifying dramatically since the mid 1970s.

In 1975–80, when the country's terms of trade declined by some 30 percent, income per capita fell at an annual rate of about 5 percent, while investment declined by an average 10 percent per year and the balance of payments suffered a sharp deterioration (Inter-American Development Bank data). During this period, Guyana maintained a fixed exchange rate of 2.55 Guyana dollars (G\$) per U.S. dollar. Between 1980 and 1990, the economy grew at an average of -3.5 percent in real terms, the worst among all the countries in Latin America. In 1990 prices, per capita gross domestic product (GDP) dropped from US\$613 in 1986 to US\$471 in 1990; Guyana's per capita GDP was then the lowest among Latin American countries except Haiti. Inflation also rose swiftly during the 1980s; it increased from 7.9 percent in 1986 to 63.6 percent in 1990, and reached 101.5 percent in 1991 (see table 5A-1 at the end of this chapter).

Government policies and economic difficulties combined to result in the emigration of many of the country's most skilled individuals, thus furthering the economic crisis. Forty-three percent of the total population lives in poverty. The majority of the poor live in rural areas, and the poorest are in the interior regions (World Bank 1994).

The Hoyte administration (1985–92) responded to this dramatic socioeconomic situ-

ation by launching an economic recovery program in 1988. Privatization, market-oriented economic liberalization, including the lifting of almost all price controls, and the encouragement of foreign investment were the cornerstones of this program, which had the support of the International Monetary Fund, the multilateral banks, and a group of donor countries led by Canada. This economic stabilization and restructuring program was designed to reduce severe macroeconomic imbalances and promote economic growth, and aimed to reorient economic management away from the administrative controls that had impeded economic development since independence and toward market-based policies.

The economic reform policies implemented since the late 1980s drastically reduced the overall consolidated public sector deficit from 34 percent of GDP in 1987 to about 1 percent in 1999 (Inter-American Development Bank data). The reforms liberalized the trade system and freed and unified the exchange rate. They reduced the external current account deficit from more than 40 percent of GDP in the late 1980s and early 1990s to 12.3 percent of GDP by 1999. And they eliminated most price controls and consumer subsidies, and brought down inflation from about 90 percent in 1989 to 8.6 percent in 1999. Central government current expenditures were reduced from almost 70 percent of GDP in 1987 to 27.3 percent in 1999, and several public sector enterprises were restructured and privatized. In 1999, 35 percent of the total population lived in poverty, down from 43 percent in the early 1990s.

In the context of economic and fiscal constraints, Guyana's education system has undergone a long-term decline. Inadequate funding, inefficient utilization of available resources, and inequitable distribution of educational opportunities have plagued the education system. Among countries in the Ca-

ribbean, Guyana's education system has dropped from the top toward the bottom during the past two and a half decades. Education in Guyana today has poor infrastructure, weak institutional capacity, a low-paid and unqualified teaching force, and poor performance in terms of examination results.

Yet, political and socioeconomic changes external to the education sector in the early 1990s have presented new opportunities and challenges for education. Since the democratic election in 1992, the government has placed increased emphasis on education through increasing its share of the government budget. The increased share and a larger government budget have combined to result in a real increase in government resources for education in the past few years. At the same time, the growing economy has increased demand for skilled workers at various levels. Substantial inequalities exist among different regions, among social groups, and within the education sector itself. Education is increasingly seen as an important vehicle for promoting economic growth, social equality, and democracy in Guyana.

## The Education System

Historically, Guyana has had relatively high levels of literacy and school enrollment. The authorities made primary education compulsory in 1876. In 1976, all education institutions were brought under the control of the state, and education services were to be provided free to all children. Today, basic education is compulsory from age 5 years 9 months to age 14 years 6 months, although most children are expected to stay in school until age 16 years. Basic education consists of two years of nursery, six years of primary, and three years of secondary education (Government of Guyana 1995a). A survey by the World Bank indicates that in 1992, the school attendance

**Table 5-1. The Structure of Education in Guyana**

Level	Age of students (years)	Years of school	Enrollment, 1998–99	Entrance requirement <sup>a</sup>	Female (percent)
Nursery	3.5–5.5	1–2	36,212	3.5 years old	49.2
Primary	5.512	6	105,320	5.5 years old	49.1
Secondary school	13–16	4	12,376	SSEE	43.8
Community high	13–17	5	12,764	SSEE	43.2
General secondary	13–18	5–7	36,776	SSEE & SSPE-I	55.7
All types (secondary)			61,916		50.7
Technical/vocational	18–20	2–3, and short courses	4,052	CXC or equivalent	49.9
Teachers' college	18–20	2–3	1,303	CXC (4 passes) or equivalent	84.6
University of Guyana	18–24	4–5	7,874	CXC (5 passes) or equivalent	66.0
Private schools <sup>b</sup>			1,989		51.2

<sup>a</sup> SSEE is the Secondary School Entrance Examination, SSPE-I is the Secondary School Proficiency Examination-Part I, and CXC is the Caribbean Examination Council examination.

<sup>b</sup> Private schools encompass nursery, primary, and secondary levels.

Source: Government of Guyana (1999).

rate was 92 percent for children aged 3–4 years, 98 percent for children aged 5–11 years, 90 percent for children aged 12–14 years, and 35 percent for children aged 15–18 years (World Bank 1994: 71). Table 5-1 shows the present structure of the education system.

Nursery education, or early childhood education, is available to children aged 3 years 6 months to 5 years 6 months. Regarded as the foundation of the formal education process, it seeks to promote readiness for primary education. Information from the government indicates that about 80 percent of children in this age group are in pre-school. To facilitate transition into primary education, the first two years of primary education (preparatory A and B) are designed as the continuation of early childhood education. The remaining four years of primary education are offered in standard 1–4 classes. The six years of primary education aim at equipping all children aged 5 years 6 months to 12 years with basic literacy and arithmetic skills. At the end of the primary cycle, students take the Secondary School Entrance Examination

(SSEE). The net enrollment ratio at the primary level was 98 percent in 1997/98 (Government of Guyana 1999).

The results of the SSEE determine entrance into three types of secondary schools: secondary departments within primary schools (least desirable), community high schools, and general secondary schools (most desirable). All three types of secondary schools offer an academic program, and in the first three years of secondary education, students are exposed to pre-vocational courses. Forms 1–4 are available in secondary departments of primary schools and forms 1–5 in community high schools and general high schools; some general high schools also offer form 6 classes.

At the end of form 3, students in secondary departments and community high schools take the Secondary School Proficiency Examination-Part I (SSPE-I). Those who perform well in this examination can transfer to a general secondary school. Unsuccessful candidates in secondary departments can stay in the same

school to complete form 4 and take the SSPE-II at the end of that year. Unsuccessful candidates in community high schools can stay in the same school and complete the regular five-year secondary program. The net enrollment ratio at the secondary level was about 53 percent in 1997/98 (Government of Guyana 1999).

At the end of secondary education, students from both general secondary schools and community high schools take the CXC examination. After this examination, students can seek employment or pursue post-secondary education within Guyana. A small percentage of students (1.4 percent of cohort) enroll in form 6 classes and take the advanced level General Certificate Examination (GCE), which is necessary for admission in higher-education programs overseas. About 500 students pursue studies overseas each year.

The University of Guyana (UG) is organized into seven faculties: agriculture, arts, education, health sciences, natural sciences, social sciences, and technology. UG also provides law and medical programs. The university programs generally are four years long (medical programs are five years). Entrants are required to have at least five passes in the CXC examination or its equivalent. Except for adult education programs, students did not pay tuition before 1994/95. Since then, the country has put in place a cost-recovery program, and students have to pay tuition. In 1999, the two-semester tuition fee was G\$127,000 per student in the seven faculties, G\$300,000 per student in law education, and G\$500,000 per student in medical education (Tsang 1997a).

Cyril Potter College of Education (CPCE) offers four pre-service teacher training programs: nursery and primary programs are two years, and secondary and vocational programs are three years. All entrants are required to have passes in four subjects in the CXC examination (or its equivalent, such as the O-Level

GCE); "high" passes are necessary for enrollment in secondary and vocational programs. Graduates of these programs receive a teaching certificate. CPCE also provides in-service programs to untrained teachers and to upgrade the skills of previously trained teachers. The Faculty of Education at UG offers diploma, bachelor's, and master's programs in education.

Formal technical-vocational education is offered at two technician-level institutes (the Government Technical Institute and the New Amsterdam Technical Institute) and at two craft-level vocational training centers (the Guyana Industrial Training Center and the Carnegie School of Home Economics), all under the administration of the Ministry of Education and Culture (MEC). Two government institutions that are not administered by MEC also offer programs in agricultural science and domestic science.

Female enrollments are comparable to male enrollments, at the nursery, primary, secondary, and university levels. Females make up the overwhelming majority at CPCE, while most of the students in technical-vocational institutions are males. Female teachers are the majority at the nursery, primary, and secondary levels; they are the minority at the other levels.

The government permits the operation of private schools. In 1999, there were six private schools with a total of 1,989 students at the nursery, primary, and secondary levels (Government of Guyana 1999). According to the government, these schools charged a wide range of tuition fees and were becoming accessible for more families.

Education came under the complete control of the state in 1976. In 1980, the government decentralized the administration of education. The regional council in each of the 10 administrative regions of the country controls nursery, primary, and secondary education. MEC controls all other education services, including nursery, primary, and sec-



ondary education in Georgetown; teacher training; technical-vocation education; university education; education resource centers, and practical instruction centers. The Ministry of Agriculture runs and finances a couple of schools offering agricultural and domestic sciences. The Ministry of Health finances medical education at UG, which is under the administrative control of MEC.

The Minister, who is a political appointee, heads MEC. All subordinates to the Minister are career civil servants. MEC is responsible for establishing national education policy and a national curriculum for all administrative regions in the country. In addition, MEC monitors education progress in all regions, and funds and distributes textbooks to all schools. A separate assistant chief education officer within MEC is designated to supervise all schools in the metropolitan Georgetown area. MEC has its own budget, which is funded by allocation in the central government budget. The Teachers' Service Commission is a semi-autonomous government body not under the administrative control of MEC. It hires and disciplines tenured teachers throughout the country.

Each of the 10 administrative regions is headed by a regional executive officer who is responsible for the administrative, education, agriculture, and health services in a region (agriculture is being recentralized). Each region has a regional democratic council, which provides political representation and whose members are appointees by the various political parties. The regional executive officer can wield considerable power when the regional democratic council is weak. Some members of the council participate in an education subcommittee to guide the development of education in a region. MEC appoints a regional education officer to handle the day-to-day administration of schools in a region; he or she reports to both MEC and the regional executive officer. One or two district education offi-

cers and one or more education supervisors assist the regional education officer.

The regional education officer prepares the education budget for the schools in the region. The education budget forms part of the overall budget for the region, and the budget for the region is funded from allocation in the central government budget. The regional budget is submitted directly to the Ministry of Finance; there is no requirement that MEC review the regional education budget.

All schools in Guyana are supposed to have parent-teacher associations (PTAs) or school boards. However, PTAs or school boards work in very few schools; community participation in schools is generally weak. PTAs tend to focus on fundraising activities and have little influence on education issues in school.

## **Education Expenditures and Financing**

### ***Public Expenditures***

Public expenditures on education consist of current (recurrent) and capital expenditures on education at the central and regional administrative levels. While education agencies incur most public expenditures, several non-education agencies also spend on educational activities. Since the country has experienced high rates of inflation, nominal expenditures and real expenditures can give different pictures of public resources for education.

### ***The Ministry of Education and Culture's Budget in 2000***

MEC's total budget for 2000 was G\$6,800 million, which was 8.2 percent of projected GDP (Inter-American Development Bank 2000a). The education budget consisted of G\$5,304 million in current spending (78 percent) and

**Table 5-2. Public Education Expenditures by Education Agencies, Guyana, 1986–94**  
(Millions of Guyana dollars)

Value	1986	1987	1988	1989	1990	1991	1992	1993	1994
Nominal	129	194	273	331	379	470	1,335	1,824	2,460
1994 prices	2,374	2,778	2,795	1,786	1,250	769	1,705	2,118	2,460

Source: Computed from data in table 5A-2 and price data from Inter-American Development Bank (1995a: 107).

G\$1,496 million in capital spending (22 percent). The education budget in 2000 represented a significant planned increase over 1999, when MEC's spending amounted to 6.1 percent of GDP. In addition to MEC, other government agencies made expenditures on education-related activities, including the Office of the President, the Ministry of Finance, the Ministry of Health, the Ministry of Agriculture, and the Ministry of Public Works. These agencies' education spending was not trivial; for example, in 1994, it amounted to about 25 percent of MEC's spending on education (Tsang 1997a).

#### *Public Expenditure Indicators*

Education agencies increased spending from G\$129 million in 1986 to G\$2,460 million in 1994—in nominal terms, an average annual growth rate of 44.6 percent (table 5-2). However, in real terms (1994 prices), there was hardly any overall growth between 1986 and 1994; the average annual real growth rate was 0.5 percent. Real expenditures during 1989–93 actually fell below the 1986 level. Table 5-2 does not include public expenditures on education by noneducation agencies because such information was not available.

The national-effort indicator is public expenditures on education as a percentage of GDP, and the fiscal-effort indicator is public expenditures on education as a percentage of total government expenditure. Both indicators have fluctuated over time, declining rapidly after 1988, reaching a low in 1991, and fol-

lowing a rising trend since 1991 (table 5A-2). The decline between 1988 and 1991 reflected the depth of the economic crisis toward the end of the 1980s. The rise after 1991 was consistent with the government's increased political commitment to education and with improving economic growth since the implementation of the Economic Recovery Program.

Fiscal effort averaged 5.5 percent during 1988–90, 6.9 percent during 1991–97, and 13.3 percent during 1997–99 (Government of Guyana data). National effort averaged 4.0 percent during 1988–90, 3.2 percent during 1991–97, and 5.2 percent during 1997–99. The substantial increase in 1997–99 was due to an additional factor, that is, debt relief for Guyana under the Heavily Indebted Poor Countries initiative.

Capital expenditures on education averaged 13.6 percent of total public expenditures by education agencies during 1986–94 (Government of Guyana data). This ratio fell from 14.0 percent in 1987 to a low of 7.0 percent in 1991 and then increased to 24.3 percent in 1994. Current expenditures on education followed the opposite pattern. The rapid rise in the capital share after 1991 was due to relatively larger capital investment from external sources, such as the Primary Education Project financed by the Inter-American Development Bank (IDB). Between 1997 and 1999, capital spending on education averaged 23.5 percent of total government spending on education (computed from Inter-American Development Bank 2000a: table 2).

**Table 5-3. Distribution of Current Education Expenditures by Category, Guyana, 1991–95**  
(Percent)

Subsector	Average for 1991–94		Actual budget for 1995	
	Personnel	Nonpersonnel	Personnel	Nonpersonnel
Nursery school (Georgetown only)	82.96	17.04	81.73	18.27
Primary school (Georgetown only)	80.22	19.78	83.96	16.04
Secondary school (Georgetown only)	77.51	22.49	45.84	54.16
Technical/vocational (under MEC only)	85.24	14.76	41.98	58.02
Teacher training	39.20	60.80	34.02	65.98
University of Guyana	70.71 <sup>a</sup>	29.29	73.07	26.93 <sup>b</sup>

<sup>a</sup> Based on actual figures for 1993–94.

<sup>b</sup> Based on actual figures for 1994–95.

Source: Computed from Government of Guyana data.

### *Central and Regional Current and Capital Education Expenditures*

Current education expenditures by regional education departments averaged 45.4 percent during 1986–94 (see table 5A-3). Although the government attempted to promote decentralization in education in the 1980s, the regional share actually declined from 56.5 percent in 1986 to 47.3 percent in 1994 (Government of Guyana data). The regional share reached a low of 37.2 percent in 1992, after which it moved upward. In the 1995 current budget for education, the regional share was 55.4 percent. Among the 10 regions, regions 6 and 4 had the largest current budgets in 1995 (see table 5A-4).

Capital education expenditures by regional education departments averaged 23.3 percent during 1986–94 (see table 5A-3). The regional share increased from 18.4 percent in 1986 to a high of 33.6 percent in 1991 and then fell to a low of 14.9 percent in 1994 (Government of Guyana data). Thus, in the most recent years with available data (1992–94), the regional share of current education expenditure increased and the capital share decreased. It should be pointed out that the declining regional share in capital expenditure was due mostly to large, externally financed capital projects under MEC.

The Primary Education Project is under MEC, but it benefits both central and regional education institutions. In 1995, 9.9 percent of the budget for capital expenditure was allocated to regional education departments.

### *Personnel and Nonpersonnel Expenditures*

Table 5-3 shows the percentage distribution of current education expenditures by personnel and nonpersonnel categories and by levels/subsectors of education. Actual figures for 1991–94 show that the share for personnel generally decreases with higher levels of education. This pattern is consistent with that for other developing countries (Tsang 1988).

Teacher training has a low personnel share because the government provides relatively large subsidies to students, such as monthly stipends and boarding support. Technical-vocational institutes spend relatively more of their current resources on materials and supplies. Regional education departments do not separate their current expenditures by level of education. For more details on annual expenditures and distribution, see table 5A-5.

Financial management is weak in some of the regions. Nonpersonnel education expendi-

**Table 5-4. Percentage Distribution of Current Education Expenditures by Subsector, Guyana, 1992–94**

Subsector/level of education	1992	1993	1994
Nursery, primary, and secondary	58.0	58.9	72.3 <sup>a</sup>
Technical/vocational	3.3	2.6	2.3
Teacher training	2.4	2.4	2.2
University of Guyana	6.5	12.1	16.1
Others	29.8	24.0	7.1

a In 1994, spending by MEC on textbooks and school feeding programs (which is under the "Others" category) was added to the spending on the nursery, primary, and secondary subsectors. In 1992 and 1993, spending on textbooks and school feeding programs remained with MEC under the "Others" category.

Note: Values do not include education spending by noneducation agencies.

Source: Computed from Government of Guyana data.

tures have occasionally been used for noneducation purposes. Information from interviews in Guyana indicates that, in some regions, regional executive officers bypass the regional education officers and authorize such spending. Without proper accounting, it can be difficult to determine the actual uses of nonpersonnel education expenditures. The likelihood of misuse of personnel resources is smaller because they are tied to payments to employed individuals in education agencies and institutions. Misuse of nonpersonnel funds can also be a problem at the school level.

#### *Distribution by Subsector*

Table 5-4 shows that, during 1992–94, the government spent an increasing share of its current education resources on the lowest levels of education (nursery, primary, and secondary). This pattern reflected the government's increased commitment to basic education. During the same period, UG gained, while the share for technical-vocational education was reduced. The share for teacher training was stable (see table 5A-6).

In 1994, 72.3 percent of the current education expenditure spent by education agencies was devoted to nursery, primary, and secondary education (table 5-4). Based on the

number of employed individuals by education level across the administrative regions, it is further estimated that in 1994, the current share was 10.0 percent for nursery education, 29.6 percent for primary education, and 32.7 percent for secondary education (World Bank 1995c). The primary share was low compared with the 40–50 percent level for many other developing countries (Tsang 1988). Furthermore, Georgetown spent a larger share of its current education resources on secondary education than on primary education. In 1994, the distribution was 15.9 percent for nursery education, 38.5 percent for primary schools, and 45.6 percent for secondary schools (Government of Guyana data).

Table 5-4 does not consider current education spending by noneducation agencies. Since most of the spending by noneducation agencies was directed at the nursery, primary, and secondary subsectors, the total share for these three subsectors would be larger if current education spending by noneducation agencies were included. For example, in 1994, total current education spending (by education and noneducation agencies) amounted to G\$2,466.2 million, of which G\$1,826.8 million was spent on nursery, primary, and secondary education (Government of Guyana data). The total share of these three subsectors rose to 74.1 percent.

**Table 5-5. Current Education Expenditure Per Student by Subsector, Guyana, 1994**

Subsector	Expenditure		Unit cost ratio <sup>a</sup>
	Guyana dollars	U.S. dollars	
Nursery	5,836	42.20	1.09
Primary	5,354	38.71	1.00
Secondary	9,289	67.17	1.73
Technical/vocational	15,663	113.25	2.93
Teacher training	70,568	510.25	13.18
University of Guyana	96,998	701.36	18.12

<sup>a</sup> Unit cost of given subsector divided by unit cost of primary education.

Note: Values are based on current education spending by education agencies.

Source: Government of Guyana data.

The share of total current education spending was estimated to be 10.7 percent for nursery education, 30.1 percent for primary education, 33.3 percent for secondary education, 1.7 percent for teacher training, 3.5 percent for technical/vocational education and training, 13.0 percent for UG, and 7.7 percent for others.

### Unit Costs

Table 5-5 presents the average current education expenditure per student by subsector in 1994. It shows that teacher training and university education are very expensive compared with primary education. However, the ratios of unit costs have changed over time. Between 1991 and 1994, the ratio decreased from 1.30 to 1.09 for nursery education, and from 1.82 to 1.73 for secondary education. However, it increased from 10.43 to 18.12 for UG (Government of Guyana data).

A positive development for education is that real current education expenditures per student grew rapidly during 1991–94. During this period, the average real growth rate per year was 32.5 percent for nursery, 40.6 percent for primary, 38.4 percent for secondary, and 69.0 percent for university education (Government of Guyana data; Inter-American De-

velopment Bank 1995). This rapid growth was the result of substantially larger government current education expenditures, relatively modest inflation rates, and relatively slow growth in enrollment. Unit costs vary substantially within subsectors, such as by type of school, region, subject, and population group (see tables 5A-7 through 5A-10).

After years of real decline, public expenditure on education has improved significantly since 1991–92, particularly in terms of fiscal and national-effort indicators and real current education expenditures per student. However, the level of public investment in education is still relatively low. Deficiencies in the sector reflect a long period of underfunding of education in the past and are compounded by financial leakage as a result of weak financial management. Although the government has increased its commitment to basic education, primary education still receives a small share of current education resources. University education has gained substantially in recent years.

### Private Expenditures

In addition to the government, various private sources make education expenditures. Households pay for children's education, including



**Table 5-6. Total Household Education Expenditure, Guyana, 1993**

Household expenditure indicator	Value
Average per household with children in school (Guyana dollars)	9,421.0
Percentage of household income	5.2
Percentage of household expenditure	3.6
<i>Ratio of highest to lowest</i>	
Consumption quintile	3.4
Geographical area's spending	2.4
Administrative region's spending	4.7
Ethnic group's spending	3.3

Source: Authors' calculations and Tsang (1997a).

school uniforms, books and writing supplies, school fees (private tuition), and education-related travel, boarding, and lodging. Community organizations make cash contributions to education institutions. Some employers either provide training to their workers or support worker training outside the workplace. Based on a number of surveys, this study estimates the amount of expenditures on education and training in Guyana by households, community organizations, and employers. While some of these private sources also make in-kind contributions to education, such contributions are not considered here because of lack of reliable information.

This study analyzes data on household expenditures on education from the Household Income and Expenditure Survey conducted by the Bureau of Statistics in Guyana and the World Bank in 1993. Table 5-6 gives a brief summary of the results (see table 5A-11 for more details). Total household spending on education (those households with children in school) averaged G\$9,421, which represented 5.2 percent of household income and 3.6 percent of household expenditure. Household education spending per student averaged G\$4,450; the largest spending items were uniforms (about 38 percent of total household spending on education) and travel (28 percent).

In 1993, household expenditures on education were significant compared with public expenditures on education. Government current expenditure per student was estimated at G\$4,664 for primary education and G\$8,844 for secondary education (Tsang 1997a). Thus, average household expenditure on education per student was equal to about 95.4 and 50.3 percent of the government's unit cost for primary and secondary education, respectively. Households spent a total of G\$759.1 million on education in 1993; this amounted to 48.4 percent of education agencies' total current expenditure on education and 41.6 percent of total government expenditure on education.

However, there are substantial variations among household groups stratified by level of consumption, geographical area, administrative area, and ethnicity. For example, household expenditure on education averaged G\$15,285 for the top consumption quintile and G\$4,506 for the lowest (table 5A-11). Urban Georgetown households spent the most (G\$11,682), and rural interior households spent the least (G\$4,783). Region 3 was the top-spending administrative unit (G\$14,349), and region 9 was the lowest-spending administrative region (G\$3,073). "Other" households were the top-spending ethnic group (G\$11,637), and Amerindians were the lowest-spending group (G\$3,540).

**Table 5-7. Employers' Spending on Training Per Employee, Guyana, 1995**

Type of company	Amount (Guyana dollars)
<i>Number of employees</i>	
Less than 200	7,982
Between 200 and 1,000	6,200
Above 1,000	16,873
<i>Production sector</i>	
Primary (agricultural/raw materials)	8,249
Secondary (manufacturing)	15,921
Tertiary (service)	6,748
All companies	10,032

Source: Authors' calculations and Tsang (1997a).

A variety of organizations make contributions to education institutions, including small and large companies, religious organizations, and nonprofit community organizations. MEC does not keep track of community contributions to education; no precise information is available. This study identified large contributors and asked their managers about their financial contributions to education institutions and the uses of such contributions. In 1995, 11 large contributors gave G\$12.3 million (Tsang 1997a). Schools used the contributions to purchase equipment and furniture, and for school rehabilitation. Discussion with a large contributor indicates that the total cash contributions from community organizations were probably twice the amount given by the 11 large contributors. If that were the case, community contributions would have been equal to about 1 percent of the government's current budget for education in 1995.

To estimate employers' training expenditures, the study carried out a survey of 13 companies in December 1995 and January 1996. The selected companies are registered with the Consultative Association of Guyanese Industry Limited (CAGI) and represent about 25 percent of the total. They are of different sizes and are from different production sectors. In 1995, about two-

thirds of the companies financed both on-the-job and off-the-job training (for example, in a technical-vocational training institute run by the government). The training budgets of the 13 companies totaled G\$103.9 million in 1995 (Tsang 1997a). Thus, the total training budget for all the companies registered with CAGI was about G\$415.6 million; this amount was six times the MEC budget for technical-vocational education and training (G\$68.7 million) in 1995 (Tsang 1997a). In other words, employers are the major source of funding for technical-vocational education and training.

For the 13 companies, the training budget averaged G\$10,032 per employee (table 5-7). But this unit cost varied by company size and by production sector: it was lowest for medium-size companies (200–1000 employees) and highest for companies engaged in secondary production.

Private education is a negligible part of the education system in Guyana. The government does not have an explicit policy regarding private education, and MEC does not keep records of private institutions. For this study, we looked for private primary and secondary schools. Among the three primary schools we identified, two offer classes up to standard III and the other to standard IV. In 1995, the three schools had a

**Table 5-8. External Funding of Capital Expenditures, Guyana, 1993–95**

Capital expenditures	1993 actual	1994 revised	1995 budget
Total government (Guyana dollars)	7,869.7	10,697.0	15,642.9
Financed externally (percent)	57.9	44.0	57.8
Financed internally (percent)	42.1	56.0	42.2
Total financed externally (Guyana dollars)	4,553.3	4,701.5	9,040.9
Grants (percent)	15.6	21.7	22.8
Loans (percent)	84.4	78.3	77.2
Total for education financed externally (Guyana dollars)	168.8	278.5	800.0
Percent	65.8	46.6	67.0

Source: Computed from Government of Guyana data.

combined enrollment of 874, which was less than 1 percent of primary enrollment in government schools. The aggregate student-teacher ratio was 23.6 in the private primary schools, as compared with about 31 for government primary schools. Total school fees (tuition and other fees) in 1995 ranged from G\$22,000 to G\$41,700 per term and were the primary funding source for these schools. The overwhelming majority of households in Guyana cannot afford the high cost of these schools.

The study identified two private secondary schools. One offers classes up to form 5. In 1995, it had 87 students and 18 teachers. Total school fees ranged from G\$347,500 to G\$695,000 per term. Private secondary enrollment is likely to be much less than 1 percent of public secondary enrollment.

Guyana does not have a private university. Some private classes offer vocational skill training, but such classes are reportedly small and unstable. A private technical school was established in 1993, and it provides training in aeronautical engineering skills.

### **External Resources**

External resources come in the form of grants and loans; the school system uses them pri-

marily in the government's capital expenditure accounts (see table 5-8). In 1995, 57.8 percent of the total capital budget (for all sectors) was financed externally, and external resources were 77.2 percent loans (table 5-8). However, the share of loans in external resources declined during 1993–95.

There are only two major external contributors of loans, the IDB and the World Bank. In 1995, the two institutions contributed 57.4 and 36.6 percent, respectively, of all the external loans to the government (Government of Guyana 1995). Historically, the IDB, the European Economic Community, and the United Nations Development Programme have been major contributors of grants. For both loans and grants, bilateral support is small compared with multilateral support. Overall, the IDB has been the most important external source of funding for capital expenditures.

Compared with other sectors, education is more dependent on external resources for its capital expenditures. For example, in 1995, external resources financed 67 percent of the capital expenditures on education (Government of Guyana 1995). Currently, the most substantial capital project in this sector is the Primary Education Project financed by the IDB. Two large projects are forthcoming: the

Secondary School Reform Project financed by the World Bank and the Post-Primary Education Project to be financed by the IDB. The British Department for International Development and the United Nations Children's Fund are also active in the education sector in Guyana; they provide grants to the government instead of loans.

External sources are important for Guyana; they supply the funds for investment in education and in other sectors that are otherwise lacking. However, external resources also add to the national debt, which is a serious problem for the country. During 1991–94, total (external plus internal) debt payments averaged 52.8 percent of total current expenditure (Government of Guyana data). Payment for external debt alone amounted to an average of 29.8 percent of total current expenditure. But current education expenditure averaged only 4.8 percent of total current expenditure in the same period. Total external debt payments averaged 7.7 times current expenditure on education.

As a result of substantial debt payments, the government has limited ability to provide counterpart resources in capital projects financed by external loans. In recent years, counterpart expenditures have been targeted at about 10 percent of loans for education. Because of the increasing demand for financial resources, the government may have diminished ability and willingness to contribute counterpart resources. According to a senior government official, the government may have to explore counterpart contributions in kind. In addition, weak institutional capacity often slows down the implementation of education projects.

However, Guyana has benefited from substantial reductions in the external debt stock and the burden of external debt service obligations through debt forgiveness granted by the Paris Club in 1996 (Naples terms), and the more recent Heavily Indebted Poor Countries initia-

tive. These initiatives have been complemented by additional write-offs from official creditors, a buy-back operation that eliminated commercial bank debt, and greater reliance on concessional multilateral debt, particularly from the IDB. These mechanisms reduced the public external debt from 530 percent of GDP in 1992 to 212 percent in 1999. In 2000, public external debt amounted to about US\$1.4 billion, and the actual debt service ratio was a manageable 20 percent of exports of goods and nonfactor services (Inter-American Development Bank data).

### ***Resources for Education and Training 1995***

Table 5-9 presents estimates of resources from all sources for education and training in 1995. It shows that external resources accounted for about one-eighth of all resources for the education sector. Although government expenditures were the largest source, nongovernmental sources made significant contributions, especially household direct expenditures on children's education. Employers accounted for only 7.4 percent, but they made the primary contributions for technical-vocational education and training. In 1995, the total government budget for education (from both domestic and external sources, and by both education and noneducation agencies) was 4.6 percent of GDP, but total cash resources for education amounted to 6.6 percent of GDP.

## **Critical Issues**

### ***Funding***

Years of economic decline and excessive state intervention in all aspects of national life have had lasting consequences for the education sector, especially in the mobilization of resources. Government funding for education has been low because of both limited govern-

**Table 5-9. Resources for Education and Training by Source, Guyana, 1995**  
(Millions of Guyana dollars)

Source	Amount	Percent
External (channeled through government) <sup>a</sup>	800.00	14.3
<i>Domestic</i>		
Government (excluding external resources) <sup>a</sup>	3,131.42	55.9
Households <sup>b</sup>	1,227.42	21.9
Community cash contributions <sup>c</sup>	25.36	0.5
Employer-financed technical-vocational training	415.60	7.4
Total from all sources	5,599.80	100.0

<sup>a</sup> These figures are budget estimates; actual expenditures may be lower.

<sup>b</sup> Assumed equal to 48.4 percent of current education expenditure by education agencies.

<sup>c</sup> Assumed equal to 1 percent of current education expenditure by education agencies; does not include in-kind contributions.

Source: Authors' calculations.

ment revenues and the allocation of a small share of the government budget for education. The education system mobilized an inadequate amount of private resources prior to the early 1990s. This was mainly due to the level of poverty and the common belief that the provision and financing of education should be the responsibility of the state. The country's edu-

cation deficiencies are related to many years of underfunding. Although public expenditures on education have significantly improved since the early 1990s, they remain inadequate to meet the education needs of the country.

Comparison with other countries indicates that Guyana's public expenditure on education has been relatively low. Table 5-10 shows

**Table 5-10. International Comparison of Public Current Expenditure on Education, Guyana**  
(U.S. dollars)

Country/country group	Per capita		PCE as a percentage of GNP <sup>a</sup>	PCE as a percentage of total current expenditure
	Gross national product (GNP)	Public current expenditure on education (PCE)		
English-speaking Caribbean average <sup>b</sup>	3,410	211.0	5.0	18.5
Middle-income Latin American and Caribbean average (1990)	1,338	232.0	2.8	15.8
Low-income countries average (1990)	303	67.0	2.6	13.7
Guyana, 1990 (1990 prices) <sup>c</sup>	471	11.0	2.2	4.2
Guyana, 1994 (1990 prices) <sup>c</sup>	686	17.0	2.5	5.8

<sup>a</sup> GDP for Guyana.

<sup>b</sup> Excluding Jamaica.

<sup>c</sup> For Guyana, PCE is based on spending by education agencies.

Source: World Bank (1995: table 6) authors' estimates.



**Table 5-11. Percentage of Untrained and Unqualified Teachers, Guyana, 1993–94 and 1998–99**  
(Percent)

Subsector	1993–94	1998–99
Nursery	57.6	43.5
Primary	41.3	27.8
Community high	37.0	26.0
General secondary	19.5	8.3

Source: Computed from data from the Ministry of Education and Culture, Government of Guyana.

that in 1990, public current expenditure per capita on education was US\$11, compared with the average US\$67 for low-income countries, although Guyana's per capita gross national product (GNP) was greater than the average for low-income countries. Guyana increased its public current expenditure per capita on education from US\$11 in 1990 to US\$17 in 1994 (in 1990 prices), corresponding to an average real growth rate of 11.5 percent per year (table 5-10). Despite this rapid rate of increase, the country's expenditure per capita in 1994 was still much lower than the average for low-income countries in 1990. In 1994, Guyana's total public current expenditure per capita on education by education and noneducation agencies was only US\$22 (in 1990 prices).

Table 5-10 also shows that, in 1990, public current expenditure on education as a share of total government current expenditure was 4.2 percent in Guyana, but for low-income countries, it averaged 13.7 percent. Guyana's share increased to 5.8 percent in 1994. Guyana's public current expenditure on education as a share of GNP (or GDP) was also below the average for low-income countries. In 1994, Guyana's public current expenditure on education amounted to 2.5 percent of GDP (table 5-10).

The government recognizes that persistently low public investment in education has adverse effects on the quality of education in-

puts and processes. Assisted by the Heavily Indebted Poor Countries initiative and with strong commitment from its top leaders, in the latter part of the 1990s, the government began to spend significantly more on education. This is certainly a welcome development that is necessary to make up for underfunding in the past and to meet the demand for educational development.

### **Inputs and Processes**

#### **Teaching Staff**

Teaching is a low-paying profession in Guyana, which makes it difficult for the education sector to attract and keep capable and qualified teachers. The percentage of unqualified teachers is high, especially at the nursery and primary levels. The government has managed to reduce the percentage of unqualified teachers (see table 5-11), but the percentage may be very high in some regions of the country. For example, in 1999, the percentage of unqualified teachers at all education levels was 43 in region 6, 47 in region 2, and 80 in region 8; Georgetown had the lowest percentage at 31 (World Bank 2000c).

To support their families, many teachers engage in other income-generating activities (such as private tutoring) in addition to teaching, thus draining their energy away from the

classroom and reducing their teaching effectiveness. Government officials point out that “brain drain” has been a problem for Guyana, as many skilled people have left the country for employment overseas. Maintaining a qualified teaching force is a challenge for MEC, and it is a critical part of the overall effort to improve student learning in Guyana.

### *Learning Materials and Facilities*

Lack of learning materials and inadequate facilities are common in many schools in Guyana. The Primary Education Project currently under implementation seeks to address these deficiencies at the primary level. In addition to supporting teacher training, the project aims to develop the capacity to review and update the primary curriculum, produce and distribute a variety of teaching and learning materials, provide school furniture and equipment, and rehabilitate school buildings (Inter-American Development Bank 1989).

The secondary level also needs more learning materials and better facilities. Based on a survey of 20 percent of the general secondary and community high schools in 1995, the average school had only five library books per student. Thirty percent of the community high schools surveyed did not have library books in 1995. Although the school system provides textbooks to secondary classes, 82 percent of the schools surveyed still do not have a full set of textbooks for forms 1–3. Many schools need repairs (minor and major) of classrooms and other school facilities: 33 percent report that repairs are needed for classroom walls, 73 percent for ceilings, 68 percent for classroom floors, 91 percent for windows, 73 percent for doors, and 59 percent for stairs (Tsang 1997a: table A27).

According to administrators and faculty, the most acute facility problem at the University of Guyana is the shortage of lecture halls;

many classes exceed the capacity of the lecture halls. There is also a short supply of residence halls for boarding students. Recent government policy papers identify problems at post-secondary technical-vocational schools, which have inadequate funding, lack workshop space, poorly maintain equipment and machines, have inadequate supplies of materials, and lose competent and qualified instructors to the private sector (Government of Guyana 1995a, 1995b).

### *Institutional Capacity*

At both central and regional education offices, many staff members have not received adequate training to perform their tasks competently. They require additional training to strengthen education administration. At the regional level, the lines of authority should be clarified and accountability strengthened to ensure that central policies are implemented at the lower levels. As a result of poor funding, schools do not receive adequate inspection and supervisory support from the regional education offices.

MEC suffers from an inadequate number of capable middle-level managers because the salaries are unattractive. Senior managers sometimes have to perform the tasks usually reserved for middle-level managers. This creates a bottleneck in the overall management and administration of the education system. Low-level staff is more abundant but is underutilized. In short, the school system should improve institutional capacity through a combination of training, targeted hiring, increased salaries, and establishing guidelines and procedures.

Weak financial management appears to be widespread throughout the education system. The regional level lacks accurate records of the utilization of nonpersonnel funds, and misuse of such funds is not uncommon. Some regional education offices do not send their statements of expenses to the finance unit with-

**Table 5-12. Aggregate Results of the Secondary School Entrance Examination, Guyana, 1995**

Indicator	Math	English	Social studies	Science
Low score	0	0	0	0
High score	60	55	53	59
Mean score	20.8	21.2	19.9	23.7
Standard deviation	12.9	10.9	9.0	11.3
Candidates scoring above 50 <sup>a</sup> (percent)	4.39	0.51	0.04	0.97
Candidates scoring 30 or below <sup>a</sup> (percent)	77.23	80.33	87.34	73.89

<sup>a</sup> The maximum raw score is 60 for each subject.

Source: Government of Guyana (1995c: 5 and appendix VI).

in MEC, and thus MEC does not have the necessary information to assess whether funds have been used for their intended purposes or in accordance with national education policies. Regional education budgets fall outside MEC's review. Interviews with UG administrators show that financial management is also weak at the university level. There is a need to improve the process of financial management, including information collection on revenues and expenditures and processing of such information for monitoring and planning purposes. Despite MEC's progress in recent years, the information base remains inadequate.

### **Performance and Efficiency**

Given the deficiencies in education inputs and processes, it is not surprising that the education system is plagued by low performance and quality, defined as student achievement and measured in terms of examination results.

#### ***The Secondary School Entrance Examination***

The SSEE is offered to pupils (10–12 years old) at the end of the primary cycle and determines entry into different types of secondary schools. It consists of tests in four subjects (mathematics, English, social studies, and science), with

a maximum raw score of 60 for each subject. In 1995, 13,377 candidates took the exam (Government of Guyana 1995c); table 5-12 shows the aggregate results, which were poor in all four subjects, particularly in social studies (NCERD 1995).

Information from the National Center for Education Resources Development (NCERD) indicates that between 1989 and 1995, the average raw score was basically unchanged for English and social studies, and there was some improvement for mathematics and science (see table 5A-12). UNESCO 1999 finds that between 1995 and 1999, there was clear improvement in science and social studies, slight improvement in English, and a small decline in mathematics.

Some caution is necessary in interpreting the test scores over time because they may not be comparable. The focus on the SSEE means that past examinations determine what is taught in standard IV, and rote learning and memorization characterize the teaching-learning process. There is legitimate concern among educators in Guyana that social streaming based on the SSEE takes place when children are too young. Since basic education is nine years and participation in primary and the first three years of secondary education is widespread, social streaming should take place at the end of basic schooling.

**Table 5-13. Passing Rates on the CXC Examination, Guyana, 1991 and 1994**

Subject	Percentage of students passing		Number sitting, 1994
	1991	1994	
English (A)	30.8	42.4	4,636
Mathematics	35.9	31.7	4,052
Chemistry	61.2	63.5	531
Biology	59.9	71.2	614
Physics	60.3	74.7	470

Note: The CXC is the Caribbean Examination Council.

Source: Examination Division, Ministry of Education and Culture, Government of Guyana.

### *The Caribbean Examination Council Examination*

Students take the CXC examination at age 16. The results of the examination are used for admissions to post-secondary institutions. The great majority of the candidates attend general secondary schools; community high school students have relatively small participation.

About 20 percent of the 16-year-old cohort takes the CXC examination (World Bank 1995c: 3). English and mathematics are the two required subjects. In 1994, the majority of candidates failed in the core subjects of English and mathematics; only 1.9 percent and 3.2 percent scored a level-I (highest level) pass in English and mathematics, respectively (Government of Guyana data). Fewer candidates failed in chemistry, biology, and physics, but the results were still poor. Compared with their counterparts in other English-speaking Caribbean countries, Guyanese candidates had lower performance (Tsang 1997a: table A30).

In 1991–94, Guyanese candidates had mixed results on the CXC examination (table 5-13). The passing rate dropped from 35.9 to 31.7 percent for mathematics, but increased from 30.8 to 42.4 percent for English. Significant gains were also reported for physics and biology. There was a small gain in the passing rate for chemistry. Thus, except for mathematics, Guyanese students improved in the CXC examination. This improvement repre-

sents a pleasant reversal of the downward trend in the 1980s.

Since 1998, the CXC has used a different grading scheme, with grades I–III being considered satisfactory (especially with respect to admissions to post-secondary education) and grades IV–VI being unsatisfactory. According to Caribbean Examination Council (2000), the satisfactory performance rate in May–June 2000 was 24.5 percent for mathematics, 41.1 percent for chemistry, 34.4 percent for biology, 35.6 percent for physics, and 25.9 percent for English. These rates were among the lowest in the Caribbean region.

### *Dropout and Repetition Rates*

Although dropout and repetition rates are reputed to be low for both primary and secondary schools, there are no reliable data on these internal efficiency indicators. Either schools do not turn in the annual statistical questionnaire to MEC or it is not clear whether the submitted information is accurate. MEC is currently conducting a school-mapping project that covers all the regions to establish a more reliable baseline dataset.

Nonetheless, information from a nonrepresentative sample indicates that in 1990–91, dropout rates in primary grades were mostly less than 6 percent and typically around 2–4

percent. Repetition rates were around 5–10 percent in preparatory A across regions; they decreased to about 1–2 percent in standard III and increased to about 4–11 percent in standard IV (with the upcoming SSEE). A crude analysis for upper-secondary grades indicates that repetition rates were estimated to be as high as 20–25 percent in 1990, probably because of the CXC examination (World Bank 1995c: 3).

### ***Student Attendance Rates***

Poor student attendance is widely acknowledged to be a serious problem in primary and secondary schools. One regional education officer reported that the student nonattendance rate in his region in 1995 was 20 percent in primary schools, 30 percent in general secondary schools, 50 percent in community high schools, and 50 percent in secondary departments of primary schools. These figures for secondary schools are consistent with a 1988 World Bank survey that found that less than two-thirds of secondary school students attend school (World Bank 1995c: 4). The factors that contribute to poor attendance rates include the need to assist in household production, the long distance between home and school and the burdensome transportation cost, and the stigma associated with “inferior” schools (such as the community high schools and secondary departments of primary schools).

### ***Teacher Absenteeism***

Teacher absenteeism is also a problem in primary and secondary schools. In 1995, the teacher absenteeism rate was 16 percent (Government of Guyana data). According to one regional education officer, some teachers in his region live far away from the school and the transportation expenses are costly, especially in light of their low salaries. Visits to some sec-

ondary schools in Georgetown in October 1995 also confirmed the extent of the problem of teacher absenteeism. Thus, for some regions in Guyana, as much as one-third to one-half of instructional time is lost due to a combination of student and teacher absenteeism.

### ***Underutilization of Education Resources***

The extent of student and teacher absenteeism implies that there is serious underutilization of the already scarce education resources in primary and secondary education. Underutilization of scarce education resources also exists elsewhere in education in Guyana. At UG, some programs have very few students and the student-to-faculty ratio is low by international standards (University of Guyana 1994). Both administrators and faculty recognize this problem but according to them, this problem is partly related to the short supply of qualified applicants. For example, the Faculty of Natural Sciences had a student-to-faculty ratio of only 6.2 in 1993/94 (University of Guyana 1994). Because of the inadequate offerings of science courses in secondary schools and the small number of students taking the science subjects in the CXC examination (and its equivalent), the potential pool of applicants to this faculty is small. Thus, the underutilization of faculty at the university level is related to the inadequacy of science education at the secondary level.

A survey of 30 laboratories and workshops at UG in October–November 1995 found low utilization rates (Tsang 1997a). Sixteen laboratories and workshops had a utilization rate of less than 10 percent. Only five of them had a utilization rate of over 50 percent.

Low learning achievement in primary and secondary education suggests that primary and secondary graduates are not well prepared in the basic skills necessary for entry-



**Table 5-14. Employers' View of the Adequacy of New Graduates' Skills, Guyana, 1995-96**  
(Percent)

Employers' response category	New graduates of the University of Guyana	New graduates of technical-vocational institutes
<i>Adequacy of skills for employment in the company</i>		
Very adequate	43.8	33.3
Somewhat adequate	50.0	46.7
Somewhat inadequate	6.2	13.3
Very inadequate	0.0	6.7
<i>Work attitude</i>		
Very eager to perform well	62.5	40.0
Somewhat eager to perform well	31.3	60.0
Not eager to perform well	6.2	0.0

Source: Tsang (1997a).

level jobs. A survey of 16 companies conducted in December 1995–January 1996 found that 25 percent of the companies have to provide on-the-job training programs to workers (such as clerks and production workers) to improve their basic skills (such as basic reading skills and/or basic numeracy). Some of the programs conducted in 1995 were more than six months long. Low education performance results in added production costs to the employer.

For many years in Guyana, employers have had minimal involvement in managing and financing government technical-vocational training institutions. The weak linkages between these institutions and the productive sector adversely affect the quality of training programs and their responsiveness to the changing demand for skills. This weakness is now well recognized, and government officials dealing with technical-vocational education and training (TVET) are working with employers to strengthen their participation in the management and financing of this subsector.

The survey of companies shows that employers are generally willing to strengthen linkages with government training institu-

tions. The great majority of employers are willing to get involved in the management of TVET, for example, as members of a national council or management board (Tsang 1997a). The majority of employers are very willing or somewhat willing to contribute resources (personnel, equipment, funds, or sites for practical training). Government officials and employers should use this opportunity to increase their cooperation in the subsector.

Employers indicate that they have difficulty in hiring qualified technical staff (technicians and engineers). Part of the problem, according to the principal of a government training institute, is the loss of graduates to employment overseas. Another problem is that many employers do not value new technical-vocational graduates (see table 5-14). Employers tend to have a more favorable view of the skills and work attitudes of new graduates of UG than those of technical-vocational institutes. However, most of the students at UG are enrolled in nontechnical subjects. For example, the Faculty of Social Sciences alone accounted for 50.2 percent of total enrollment in 1994-95.

**Table 5-15. Unqualified Teachers by Geographical Area, Guyana, 1993–94**  
(Percent)

Subsector	Georgetown	Interior regions <sup>a</sup>	National average
Nursery	55.2	81.7	57.6
Primary	30.5	70.4	41.3
Community high	36.2	62.7	37.0
General secondary	10.0	47.4 <sup>b</sup>	19.5

<sup>a</sup> For regions 7, 8, and 9.

<sup>b</sup> For region 7 only; regions 8 and 9 did not have a general secondary school in 1993–94.

Source: Computed from data provided by the Ministry of Education and Culture, Government of Guyana.

### **Disparities and Inequities**

Although access to schooling is nearly universal at the primary level and is high at the secondary level, there are substantial differences in the opportunities to learn among children from different backgrounds, with the most difficult circumstances for children from poor, rural, or minority families. Differential access to knowledge translates into varying educational attainment in the adult population, and variation in educational attainment is linked to variation in earnings.

#### **Differential Access to Knowledge**

In Guyana, differential access to knowledge is reflected in differences in inputs provided at the school level, the distribution of schools, family resources, examination results, and the background of students.

At the nursery, primary, and secondary levels, the percentage of unqualified teachers is substantially higher at schools in the interior regions than at schools located elsewhere (table 5-15). The school system provides nursery education to some children in urban areas (about 35 percent of children aged 2–4 in 1992), but it is seriously lacking in rural areas (Pence 1999). The streaming of secondary students into three types of secondary schools re-

sults in further educational inequities. Large differences characterize the three types of secondary schools in terms of teacher resources, current expenditure per student, library books, availability of textbooks, classroom area per student, and the physical conditions of schools. General secondary schools rank at the top, and secondary departments of primary schools at the bottom.

The distribution of secondary schools is inequitable in that general secondary schools are mostly found in urban and coastal areas. Since the incidence of poverty is highest in rural areas and in interior regions in particular, children from poor backgrounds have much lower access to general secondary schools. A recent study by the World Bank finds that among the poorest students, about 50 percent attend secondary departments of primary schools and only 8 percent attend general secondary schools (World Bank 1994: 70).

Disparities in family resources also reinforce disparities at school. Table 5A-11 shows large differences in household expenditure on education. Among ethnic groups, Amerindians spend the least amount on education. Households in Georgetown spend more than households in rural areas do. Interior regions have the lowest household education spending among administrative regions. And not unexpectedly, the top consumption group (measured in terms of

**Table 5-16. Enrollment of First-Year Students by Gender, University of Guyana, 1995–96**

Students	Agriculture	Arts	Education	Health sciences	Natural sciences	Social sciences	Technology	All
<i>Number</i>								
Total	34	92	164	145	135	372	112	1,054
Male	23	36	38	71	64	143	96	471
Female	11	56	126	74	71	229	16	583
<i>Percent</i>								
Male	67.65	39.13	23.17	48.97	47.41	38.44	85.71	44.69
Female	32.35	60.87	76.83	51.03	52.59	61.56	14.29	55.31

Source: Computed from information from the University of Guyana.

total household expenditure) has the highest spending on education, while the bottom consumption group has the lowest. Lower household spending on education often means that parents are less able to pay for private tuition (which is considered important in the preparation for examinations), to pay for a full set of textbooks, or to afford transportation costs when schools are not nearby (table 5A-13).

Although disparities at school and at home tacitly create and reinforce inequities in access to learning among students from different backgrounds, the SSEE and CXC examinations officially sort students into different streams. The SSEE is taken basically by all the graduates of the primary cycle, and it determines entry into the three types of secondary schools. The CXC examination determines access to post-secondary education, but only 20 percent of the age-16 cohort takes the CXC examination. Most of the candidates are from general secondary schools, mostly from Georgetown and region 6 (a coastal region with a significant urban population). In 1994, for example, there were no candidates from region 8 taking the CXC examination in English or mathematics, and no candidates from regions 1, 7, 8, or 9 taking the examination in biology, chemistry, or physics. And candidates

from Georgetown generally have the best performance in the CXC examinations (Tsang 1997a: tables A33–A37). Further analysis of CXC results shows that in 1994, male candidates performed better (in terms of passing rates) than female candidates in mathematics, chemistry, biology, and physics. Female candidates performed better than male candidates in English (Tsang 1997a: tables A38–A42).

The backgrounds of the first students at the university level in 1995–96 illustrate the cumulative effects of educational disparities and inequities at the primary and secondary levels. From table 5-16, 55.3 percent of the students entering UG in 1995–96 were female. The somewhat larger female share is consistent with the equal participation in primary education by gender and with the larger female shares in general secondary schools (see table 5-1). However, the gender distribution differs across faculties. The female share is only 14.3 percent in the Faculty of Technology and 32.4 percent in the Faculty of Agriculture. For the two science faculties (Health Sciences and Natural Sciences), the female shares are below the university average. Females have a dominant share in the Faculty of Arts, the Faculty of Education, and the Faculty of Social Sciences. This gender distribution across faculties is con-

**Table 5-17. Number of First-Year Students by Region, University of Guyana, 1995–96**

Region	Agriculture	Arts	Education	Health sciences	Natural sciences	Social sciences	Technology	All
1	0	0	0	1	0	0	0	1
2	0	0	12	0	5	0	0	17
3	0	3	8	20	1	4	18	54
4	28	71	54	86	98	256	70	663
5	6	8	32	14	6	15	15	96
6	0	3	5	10	9	14	1	42
7	0	0	10	5	0	21	0	36
8	0	2	12	1	1	29	1	46
9	0	0	7	4	0	15	3	29
10	0	5	24	4	8	18	4	63
Not identified	0	0	0	0	7	0	0	7
Total	34	92	164	145	135	372	112	1,054

Source: Tsang (1997a).

sistent with the different CXC examination results by gender and the “conventional” occupational distribution by gender.

Table 5-17 shows that region 4 (which includes Georgetown) has a substantial overrepresentation in the student body. Although region 4 has about 30 percent of the total population in Guyana, it accounts for 62.9 percent of the first-year student body. The regional distribution also differs among faculties. In particular, the Faculty of Education has a lower percentage of students from region 4 and correspondingly higher percentages of students from other regions.

The government recognizes the regional disparities in access to knowledge. It points out that it is more costly to provide education services in sparsely populated regions and that it spends more, on a per capita basis, on education in these regions than in other regions of the country.

#### *Education Attainment of the Adult Population*

The differential access to knowledge among students from different backgrounds translates into different levels of education attainment by

different groups in the adult population. According to data on individuals aged 22 years or older from the Household Income and Expenditure Survey, urban residents have higher education attainment than rural residents have. In particular, Georgetown residents have the highest level, and residents from the rural interior have the lowest level of education (see table 5-18). Table 5-18 shows ethnic differences in education attainment. In particular, Amerindians have the lowest attainment, while Afro-Guyanese and “others” (such as Chinese and Portuguese groups) have the highest level of education.

#### *Education and Earnings*

Further analysis of the Household Income and Expenditure Survey indicates that there is a significant relationship between educational attainment and labor market outcomes in Guyana. Table 5-18 shows a positive relationship between education and wages. The gender gap in wages (reflecting differences in both hours worked and hourly wages) is also substantial. However, the wage gap by gender decreases with increasing level of education. Only 51 percent of the population aged 15 and

**Table 5-18. Education Attainment of Adults, Guyana, 1993**

Grade completed	Geographical area (percent)					Ethnicity (percent)				Average wage (Guyana dollars)			Male/ female wage ratio	
	Urban		Other urban	Rural		Indo Guyanese	Afro Guyanese	Amer- indian	Others	Total		Males		Females
	All	Georgetown		coastal	interior									
1-3	3	1	2	4	3	3	2	3	2	3,259	4,101	1,240	3.3	
4-6	33	28	30	35	35	36	28	38	28	3,939	4,900	1,486	3.3	
7-9	31	18	30	34	36	33	26	34	31	4,582	5,482	2,092	2.6	
10 or higher	33	52	38	26	25	27	44	24	40	5,404	6,014	4,827	1.2	

Note: Values are for individuals aged 22 years and older. Columns may not sum to 100 due to rounding.

Source: Computed from the Household Income and Expenditure Survey.

over are in wage employment (World Bank 1994: 115). Thus, the analysis does not capture the economic returns to education for the other half of the working population.

Econometric analysis using the Mincer earnings function shows that the average rate of return to education in Guyana is 4.0 percent (table 5-19). This rate is much lower than the average of 12.4 percent for countries in Latin America and the Caribbean, as well as the averages for other regions of the world. The inferior rate of return in Guyana probably reflects the low education performance and low salaries in the country.

Although women earn less than men, the average rate of return to education for women

is actually higher than that for men (table 5-20). This finding is consistent with the wage pattern in which the wage-education curve rises more rapidly for women than for men. Table 5-20 shows that investment in education is particularly profitable for minority women in Guyana.

## Policies and Financing Strategies

Guyana's overall approach to financing education consists of three components: strategies for improving efficiency, strategies for mobilizing additional resources for education,

**Table 5-19. Mincerian Rate of Return, Guyana and Regional Averages**

Region	Coefficient (percent)
Guyana	4.0
Latin America and the Caribbean	12.4
Sub-Saharan Africa	13.4
Asia	9.6
Europe, Middle East, and North Africa	8.2
OECD	6.8
World	10.1

Source: Psacharopoulos (1994: 1329); authors' calculations.



**Table 5-20. Mincerian Rate of Return by Ethnicity and Gender, Guyana, 1993**  
(Percent)

Ethnic group	Males	Females
Indo-Guyanese	2.6**	3.7
Afro-Guyanese	5.0**	6.9**
Amerindian	0.75	17.0**
Others	6.2	16.8*

\*\* Statistically significant at the 5 percent level.

\* Statistically significant at the 10 percent level.

Source: Authors' calculations.

and strategies for targeting education programs at disadvantaged populations.

Improving efficiency means producing more of the desired education outputs for a given amount of resources (or reducing the resources necessary for achieving a given level of output). It seeks to ensure that existing resources for education are used more effectively and that additional resources for education will not be wasted. There are three categories of interventions for improving efficiency: (1) quality (student learning); (2) utilization of existing resources; and (3) community and employer participation in the management and financing of education.

Persistent underfunding of education severely affects education inputs and processes. Combined with interventions to improve efficiency, additional resource mobilization will increase the likelihood of additional student learning. There are several arguments for increased government allocation for education: (1) to make up for the deficits in education stock due to low government spending in the past; (2) to raise the current stock of human capital so as to foster further economic development; and (3) to provide adequate resources to ensure that quality basic education is accessible to all children. In addition to government spending, additional resources should

be raised from parents, communities, and employers, including increased cost recovery in post-basic education, community contributions in cash and in kind (including participation in regular maintenance and minor repairs of schools), and more employer financing and provision of training. External resources will remain an important source for funding capital expenditure on education.

Efficiency improvement and additional resources alone will not ensure that quality education (especially basic education) is accessible to marginalized populations (such as the poor, Amerindian minorities, and residents of the rural interior). By making these population groups explicit targets of its education interventions, the government will promote its goals of ensuring that all children from marginalized backgrounds have access to quality basic education, and making sure that marginalized population groups are adequately represented in post-basic education.

A variety of specific options can be considered for financing education in Guyana. The next sections discuss efficiency, resource mobilization, and targeting options for the sector overall and for the following subsectors: nursery and primary, secondary, TVET, university, and teacher training (see table 5-21).

## **The Education Sector**

Improving the quality of basic education should be the overriding concern of MEC and the regional education offices. Additional investment to boost quality would enhance graduates' capacity to more fully participate in the national development process, reduce the costs incurred by employers to provide remedial basic-skills training, and reduce wastage in basic schooling and thus the net cost of quality improvement. In other words, quality improvement could be self-financing.

### **Efficiency**

The loss in instructional time as a result of student and teacher absenteeism is the most glaring underutilization of resources. Development of appropriate corrective measures requires a good understanding of the causes of absenteeism. In addition to quality improvement, such measures might also include providing transportation allowances to concerned teachers, providing subsidies to concerned students from poor backgrounds, and removing the negative stigma associated with "inferior" schools (such as secondary departments of primary schools). Improving the efficiency of the utilization of resources at the school level is a challenging but necessary intervention.

Several measures could improve financial management and accountability in education. First, MEC could review regional education budgets. Second, the school system could disaggregate regional education budgets by level of education. Third, the system could require regional offices to promptly send records on regional education expenditures to the finance unit within MEC (in addition to the Ministry of Finance). And fourth, the education system could provide training to regional education officers about their roles and responsibility to ensure that education resources are not utilized for noneducation uses. These measures

are intended to strengthen the monitoring of resource utilization in the regions, but not to increase the decisionmaking authority of MEC over the regional education offices. The regional education offices, in turn, would need to work with head teachers to strengthen financial management at the school level.

To streamline the operation of education agencies, the system could gradually reduce the number of low-level positions. It should increase the salaries and responsibilities of low-level staff, provide them with necessary training, and increase the compensation of middle-level managers. These personnel measures would reduce the unnecessary workload on more-senior staff, transfer the load to less-senior staff, and result in a smaller but better-paid staff.

Low teacher salaries are related to many of the deficiencies in education. In the near term, given real increases in government current allocation to education, the average annual increase in teachers' salaries should stay at least even with the rate of inflation. Additional increases will depend on government revenue and the state of the national economy, and should be tied to measures to monitor teachers' effort in school. The objective is to encourage teachers to devote more of their energy to their regular teaching job and less to private tutoring. The school system should also improve teachers' working conditions and nonpecuniary rewards.

The government could achieve cost savings and more fully utilize current resources in a number of ways. First, it could reduce its subsidies for the CXC examination by designing a scheme based on needs and performance. Second, it could institute a textbook rental scheme. Third, it could adopt a tight policy on new hires at UG. In addition to these options for improving efficiency, the education system should improve the education information base. It should require all schools and education offices to re-

**Table 5-21. Summary of Financing Strategies and Options for Education, Guyana**

Subsector	Quality and efficiency improvement	Resource mobilization	Targeting and equality
Across subsectors	Quality improvement as central focus of education policy Increased instructional time Improved financial management Restructuring personnel in MEC <sup>a</sup> Increased teacher salaries tied to effort Reduced unnecessary expenditures	Total education expenditure growing at least at the rate of real GDP Increasing education's share of total government expenditure from 12.9 percent gradually to about 16 percent Increasing primary education's share of government education spending to 35 percent Increased cost recovery in post-basic schooling Increased community contribution Increased employer financing and provision of training	Unifying and restructuring secondary education; focusing on lower secondary education Targeting education resources and programs at marginalized groups in various subsectors
Nursery and primary	Expanding coverage of early childhood education Improving student learning as central focus of education policy Implementing continuous student assessment Reducing student and teacher absenteeism Improved school-community relationship Phasing out SSEE <sup>a</sup> as secondary education is restructured	Government to ensure adequate resources for this subsector Increasing primary's share of current allocation by 5 percentage points over a period of several years Increased community participation in regular school maintenance and minor repairs	Providing assistance to students from poor backgrounds Placing high priority on improving the quality of nursery and primary education in rural interior areas
Secondary	Quality improvement as central focus of education policy Reduce student and teacher absenteeism Implement continuous student assessment and curriculum update Upgrade skills of teachers Strengthening mathematics and science teaching Reducing growth of allocation to President's College; increasing cost-effectiveness of this school Substantially reducing subsidies for CXC <sup>a</sup> examination Eliminating pre-vocational education and redirecting resources for post-basic vocational training Unifying and restructuring secondary education Developing and implementing a textbook rental scheme	Improving utilization of existing resources Reducing and eliminating expenditures not central to student learning Placing spending priority on lower-secondary grades Strengthening school-community relationship	Improving access to quality lower-secondary education for marginalized groups Increasing enrollment of students from marginalized backgrounds in secondary schools of high standing Providing scholarships and subsidies to students from marginalized backgrounds
Technical-vocational	Increasing cost-effectiveness of government institutions Developing a TVET <sup>a</sup> system that is market-driven, flexible, responsive, and effective Strengthening employer financing and management of TVET <sup>a</sup>	Establishing a fund for financing TVET <sup>a</sup> , based on a levy on employers Encouraging additional employer contributions in cash and in kind to TVET <sup>a</sup> Increasing cost recovery in TVET <sup>a</sup>	Expanding vocational training for rural/agricultural populations Increasing recruitment of female and Amerindian students into TVET <sup>a</sup>

Subsector	Quality and efficiency improvement	Resource mobilization	Targeting and equality
	Selectively restructuring and expanding TVET <sup>a</sup> Encouraging private production of training		
University	Improving cost-effectiveness as central focus of education policy Selective expansion based on labor market demand Improving financial management Increasing use of distance education for delivery of programs	Decreasing government financing role Increasing cost recovery and revenues from other sources	Expanding access to university programs outside Georgetown Expanding female participation in science and technological fields Expanding access for Amerindian students
Teacher training	Expanding capacity and reducing unit cost Providing opportunity for staff development and updating programs in CPCE <sup>a</sup> Rationalizing relationship between CPCE <sup>a</sup> and Faculty of Education at the University of Guyana	Increasing government allocation to teacher training	Placing high priority on improving the quality of teachers working in rural and interior areas Ensuring diversity in teacher backgrounds

<sup>a</sup> MEC is the Ministry of Education and Culture, SSEE is the Secondary School Entrance Examination, CXC is the Caribbean Examination Council, TVET is technical-vocational education and training, and CPCE is the Cyril Potter College of Education.

port basic education statistics on a regular basis and in a timely manner.

### Resource Mobilization

Government spending on education depends on the size of total government expenditure and the overall share (current plus capital) for education. Total government expenditure depends on government revenue, which in turn is affected by the state of the national economy. According to government estimates, government revenue is expected to grow by 5 percent per year in real terms in the near term; thus, total government expenditure is likely to grow at a similar rate. Total expenditure on education should increase at least at the rate of real GDP growth.

A crucial aspect of resource mobilization is for the government to continue its rising

trend in the fiscal effort on education. It should increase the share of education in government spending from 12.9 percent in 1998 to about the average level for developing countries (16 percent). Most of the government's additional spending on education should be used for improving quality and promoting access to quality basic education for disadvantaged groups. Increased government spending on education should be preceded and paralleled by efforts to improve efficiency.

The government should utilize its resources differently, gradually increasing primary education's share of the current education budget from about 30 percent to about 35 percent (toward the low end for developing countries) over a period of several years. It should have a corresponding decrease in the share for university education and the "other" category (including central adminis-

tration). Given the government's real increase in spending on the education sector as a whole, it could change the intrasectoral shares by making larger increases for primary education and smaller increases for university education and other expenditures.

The school system could mobilize increased resources from private sources. It could ask families with children in post-basic education to pay a higher share of the cost of schooling; the cost-recovery program at UG is a good example. The school system could implement tuition fees for technical-vocational and form 4–6 education. This would require designing appropriate measures to ease the economic burden on families from poor backgrounds. Employers could increase their participation in the financing and management of technical-vocational education and training. Community resources for education could be further developed, and school principals could be trained to cultivate and develop the school-community relationship.

### **Targeting**

The ultimate objective of education restructuring is to ensure that children from all backgrounds achieve basic competencies for functional participation in society. Achieving this will require unifying and restructuring secondary education and gradually phasing out the SSEE while phasing in a national exit examination for form 3 students. In addition, the school system should place higher priority on lower-secondary education.

The government should devote additional resources to targeting education programs and services at disadvantaged and marginalized populations through several measures. First, the school system could place a high priority on improving basic education in rural and interior areas. Second, it could provide subsidies to poor families to reduce the burden of private costs of

schooling. Third, it could facilitate the access of qualified students from poor and Amerindian backgrounds to post-basic education (including enrollment in President's College, Queens College, and other general secondary schools of similar quality, as well as UG). Fourth, it could encourage an increase in female participation in technical-vocational education and in faculties with low female representation at UG.

### **Nursery and Primary Education**

The primary focus of nursery and primary education is to improve cognitive and noncognitive learning so that children from all backgrounds can achieve appropriately defined minimum learning outcomes by the end of the primary cycle. A combination of measures is necessary to improve student learning, such as increased instructional time (reducing student and teacher absenteeism), teacher training, provision of textbooks and other instructional materials, provision of adequate facilities and rehabilitation of existing infrastructure, increased parent and community involvement in schools, and improved school management.

### **Efficiency**

As it restructures secondary education, the school system should gradually phase out the SSEE (to be replaced by a national examination at the end of form 3). It should develop and implement continuous student assessment, which will involve the development of performance norms by grade level. Phasing out the SSEE will require careful planning and implementation of a number of accompanying measures at both the primary and secondary levels.

The school system could undertake several additional measures to improve efficiency. First, because of the high percentage of unqualified and untrained teachers, it needs to



develop cost-effective in-service and initial teacher training programs, possibly including distance education. Second, a good understanding of student and teacher absenteeism is necessary for devising appropriate measures to address these problems. Third, the school system should provide training to head teachers on instructional leadership and the school-community relationship.

### **Resource Mobilization**

The government has primary responsibility for ensuring that adequate resources are made available for the delivery of quality nursery and primary education throughout the country. It should increase the share of primary education in government current spending on education from 30 percent to about 35 percent over a period of several years. The school system could also mobilize resources by creating a school-community committee (or school board) that would involve community members in the regular maintenance and minor repair of schools.

### **Targeting**

The school system needs to provide the necessary assistance (in kind) to children from poor backgrounds to increase school attendance and reduce the dropout rate. The system should place a high priority (especially through allocation of resources) on improving the quality of nursery and primary education in rural and interior areas.

### **Secondary Education**

Similar to primary education, the central focus of secondary education is the improvement of student learning. This requires a combination of measures, such as increased instructional time (reducing student and teacher absenteeism), teacher training, provision of text-

books and other instructional materials, provision of adequate facilities and rehabilitation of existing infrastructure, increased parent and community involvement in school, and improved school management.

### **Efficiency**

A key measure to increased utilization of resources in this subsector is to address the causes of student and teacher absenteeism. The school system should develop and implement continuous student assessment for the secondary grades. It should strengthen the capacity for curriculum development and periodically review and update the secondary curriculum.

The school system should upgrade the skills of untrained and unqualified secondary school teachers, and provide training for head teachers on instructional leadership and school-community relations. In addition, the school system should strengthen mathematics and science education in secondary schools.

Despite overall low funding of secondary education, 15 percent of the current resources for this subsector were spent on one school (President's College) and on CXC examination subsidies in 1994. President's College has a student-teacher ratio of only 8.8. The school system should reduce growth in the allocation to President's College and increase the cost-effectiveness of this school over time. And it should substantially reduce CXC examination subsidies and redirect the savings toward quality improvement. Subsidies may be given to students from poor backgrounds who demonstrate academic potential.

The school system should eliminate pre-vocational education in secondary schools and redirect the resources toward post-basic vocational training.

A combination of measures will be needed to unify and restructure secondary educa-

tion. First, the authorities should develop and implement a common curriculum for forms 1–3 in all secondary schools. Second, improved education inputs will ensure that all secondary schools (including secondary departments) meet minimum standards. Third, the system could improve efficiency by reducing disparities in resources to different types of secondary schools and gradually eliminating the school categories. Fourth, it should eliminate secondary departments and establish new separate secondary schools in areas where there are adequate secondary enrollments. And fifth, the country should gradually phase in a national examination for form 3 students and phase out the SSEE. The school system should discontinue the SSPE-I and SSPE-II. This intervention in secondary education should be accompanied by measures to improve and implement continuous student assessment in primary education. The reforms in education structure and assessment may require a period of 5 to 10 years to implement.

Finally, the school system should develop a textbook rental scheme to reduce government expenditure on textbooks.

### **Resource Mobilization**

Secondary education's share of the total current expenditure on education is not low by international standards. The financing policy for this subsector should focus on improving the utilization of existing resources and on reducing and eliminating major expenditure items not central to student learning. Within secondary education, government education spending should place a higher priority on the lower-secondary grades than on the upper-secondary grades. The government should set realistic targets for universal lower-secondary education. The school system should strengthen community involvement in secondary education, including community participation on

school boards and community contributions in cash and in kind.

### **Targeting**

The objectives of the restructuring of secondary education are to promote overall learning and reduce inequality in access to knowledge at the secondary level. Thus, the government should place a high priority on improvement of the quality of lower-secondary education in rural and interior areas. It should increase the enrollment of qualified poor and minority (Amerindian) students in President's College and in other secondary schools of high standing. The provision of scholarships and subsidies would help to facilitate access to secondary education for children from the rural interior areas.

### **Technical-Vocational Education and Training**

Both the government and employers have legitimate roles in TVET (in terms of provision, management, and financing). In the short-to-medium term, the government has an important role because of the weak institutional capacity of the employer/private sector. Most employers do not have the capacity to organize training, and their small size does not allow for economies of scale in training. Some of the largest firms provide training to their employees, but these firms are few in number and they do not accommodate the training needs of other firms. As privatization of production deepens and the private sector acquires more maturity, employers should be able to increase their training share. Thus, over time, the policy for TVET should encourage private provision of training. In the near term, the employer/private sector should substantially increase its involvement in the management and financing of TVET.

## Efficiency

A major task of this subsector is to improve the efficiency of existing government TVET institutions. This involves a combination of the following measures:

- Establishment of a policy-setting national council for TVET with representation from both the government and employers
- Operation of a management board at the institutional level
- Provision of adequate inputs (such as qualified instructors, instructional materials, and equipment)
- Strengthened planning and management capacity (a management information system, analysis of skill demand, and training)
- Improvement in curriculum design (such as competency-based modular courses) and periodic review
- Strengthened employer involvement in the certification process and refinement of assessment procedures
- Joint planning of programs by institutions and employers
- Increased practical training in firms.

These measures focus on improving the quality, flexibility, and responsiveness of TVET.

The current TVET system is small, and there are reported shortages of skilled labor in certain fields, particularly at the paraprofessional and craft levels. The system needs to restructure and selectively expand TVET (areas for expansion should be based on a labor market study). Measures may include the following:

- Eliminating pre-vocational courses in basic education, redirecting the resources toward post-basic TVET
- Increasing capacity for short-term vocational training for graduates of basic schooling who do not pursue further formal schooling

- Increasing female and minority participation in technological programs
- Creating craft programs designed for qualified form 3 graduates
- Offering diploma programs to form 5 graduates with appropriate CXC examination results
- Allowing high-performing graduates of diploma programs to apply for admissions to technical programs at UG.

The school system should encourage vocational training for youths and adults in private institutions, with the government providing technical assistance and operational guidelines.

## Resource Mobilization

Since employers are beneficiaries of TVET, they should have a major role in financing this subsector. The establishment of a training fund currently under discussion is a promising option. A levy on employers will finance the fund. A 1 percent levy on the cost of labor would generate about G\$120 million a year, which is almost twice the amount of the current allocation for TVET in 1995–96. The government could collect the fund and put it in a special account, which the national council for TVET would manage. In addition to making cash contributions to the training fund, employers also provide in-kind financing for TVET through contributions of employee time, equipment and materials, and the workplace for practical training.

In the short-to-medium term, the government should maintain its current level of financing of this subsector (around 2.3 percent of the current education allocation). This level could be reduced in the future as the training fund becomes fully operational. As the linkage between training and employment grows stronger, the programs could charge tuition to obtain increased cost recovery.

**Targeting**

Selective expansion should include the recruitment of more females and minorities (especially Amerindians) into TVET programs, particularly in technological fields. Short-term vocational training programs for rural/agricultural populations should be expanded and linked to the income-generation activities of such populations.

**University Education**

The university education subsector needs to strengthen its capacity for financial management. It should improve transparency in revenue and expenditure flows and thus accountability for resource utilization by establishing and enforcing clear financial guidelines and providing the necessary financial management tools.

**Efficiency**

A major task for UG is to improve its cost-effectiveness. The student-to-instructor ratio is low for some faculties, and a large proportion of the laboratories and workshops are underutilized. Increased enrollment without a proportional increase in personnel would raise cost-effectiveness and produce more graduates to meet the demand of a growing economy for highly skilled labor. Expanding programs into other regions through distance education could also reduce the relatively high unit costs of university education.

However, enrollment growth should not be uniform across the faculties. It should be more closely linked to the demand for highly skilled labor in various sectors. There are reported shortages in the science, agricultural, and technological fields. Efforts to increase enrollments in these fields have to be linked to efforts to improve mathematics and science education at the secondary level and strengthen UG's role in adult/continuing education.

**Resource Mobilization**

Over time, UG's financing should depend less on government support and more on cost recovery and other revenue sources, which will be the major sources for financing current expenditures; government allocation will be the major source for financing capital expenditures. The university needs to carefully adjust tuition fees over time so that they are not prohibitive but accommodate the costs of operating the university (including the need to increase faculty salaries so as to reduce the loss of capable instructors). To help reduce the pressure on tuition revenue, the university should develop and strengthen its other revenue sources (such as income from property rentals, fees from international students, income from transportation services, and consulting income).

**Targeting**

The school system should expand higher education programs outside Georgetown to increase access to such programs for populations currently underrepresented at UG. This will require nontraditional methods of delivery (such as the use of distance education) to ensure that such programs are cost-effective. Targeting is needed to expand female participation in technological and scientific fields and to expand access to UG for underrepresented minority groups.

**Teacher Training**

Teacher training should remain a key component of the overall effort to improve student learning in Guyana.

**Efficiency**

Teacher training has relatively high unit costs because of subsidies to students and low student-teacher ratios. Improving the cost-

effectiveness of teacher training programs is important for meeting demand (especially given the significant proportion of untrained and unqualified teachers in pre-university education) and for reducing unit costs. Expansion of training capacity should not be accomplished through a linear expansion of the current model (especially the on-campus programs, which are two or three years long) at CPCE.

The sector should consider several measures for increasing CPCE's training activities: bringing training programs to the trainees (including the use of distance education); having shorter programs; and increasing the variety and frequency of training activities. It could establish additional in-service training centers and further develop school-based training programs. It should also periodically review and update teacher training programs to cope with changing classroom needs.

Training programs alone will not solve the problem of low teacher quality. The compensation and working conditions for teachers have to be improved over time to make teaching more attractive. The school system should provide opportunities for staff development at CPCE, rationalize the relationship between CPCE and the Faculty of Education at UG, and strengthen CPCE's capacity for training adult-education instructors.

### **Resource Mobilization**

Teacher training should remain the primary responsibility of MEC. While efforts to improve cost-effectiveness are important, additional government current allocation to teacher training is necessary to meet the relatively large demand.

### **Targeting**

The sector should place high priority on improving the quality of teachers working in rural

and interior areas. Although data on the cultural backgrounds of teachers are lacking, the school system should make an effort to ensure that the teaching force is culturally diverse.

## **Guyana's Education Sector Strategy and the Role of Donors**

MEC is well aware of the issues and challenges facing the education sector. In recent years, particularly in connection with the worldwide effort for Education For All, MEC has placed high priority on the development of basic education that encompasses early childhood education, primary education, and the first cycle of secondary education. The main goals are to improve the access to and the quality of early childhood and primary education, to modernize schools and classrooms through wider use of technology, and to rationalize secondary education through reforming the curriculum of the early grades in secondary education (UNESCO 1999).

International development agencies have played an important role in assisting MEC in the implementation of its educational priorities, particularly through financial and technical assistance for projects in primary and secondary education since the mid 1990s. Two prominent projects are the Primary Education Improvement Project (PEIP) and the Secondary School Reform Project (SSRP). Funded through a loan from the IDB, the PEIP focuses on three areas in primary education: human resource and development training, textbook production and distribution, and construction and rehabilitation of primary schools. The SSRP has three components: improving educational quality, rehabilitating schools, and strengthening national and regional institutions. Its primary focus is curriculum reform and the introduction of a common curriculum in the first three years of secondary education.



Table 5A-1. Socioeconomic Conditions, Guyana and Latin America, 1986-94

Indicator	1986	1987	1988	1989	1990	1991	1992	1993	1994	Average annual growth rate (percent)				
										1970-80	1980-90	1990-94		
Guyana														
Total population (thousands)	792	793	792	793	796	801	808	816	825	0.7	0.5	0.9		
Urban population (percent)					32.8				35.3	0.7	1.2	2.8		
GDP (millions of 1990 U.S. dollars)	486	463	420	395	375	413	457	518	566	0.9	-3.5	10.8		
GDP per capita (1990 U.S. dollars)	613	584	530	498	471	515	566	635	686	0.2	-3.9	9.8		
Fiscal deficit (percentage of GDP)	58.8	42.4	31.6	6.6	22.9	15.6	17.1	6.0	2.6					
Inflation rate (percent over previous year)	7.9	28.7	39.9	89.7	63.6	101.5	28.2	10.0	16.1					
Latin America														
Total population (thousands)	388,907	396,850	404,804	412,771	420,754	428,763	436,814	444,899	453,012	2.4	2.1	1.9		
Urban population (percent)					72				74.5	3.7	3.2	2.7		
GDP (millions of 1990 U.S. dollars)	985,451	1,018,068	1,020,735	1,026,097	1,026,952	1,061,808	1,093,122	1,129,431	1,186,513	5.9	1.1	3.7		
GDP per capita (1990 U.S. dollars)	2,573	2,605	2,561	2,525	2,441	2,476	2,502	2,539	2,619	3.4	-1.2	1.8		

Source: Inter-American Development Bank (1995a: 261-263, 276, 308).

**Table 5A-2. Total Public Expenditure on Education, Guyana, 1986-95**  
(Millions of Guyana dollars)

Indicator	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1986-94
Current expenditures on education	111	167	241	301	346	437	1,072	1,568	1,863	2,536	
Total government current expenditure	1,330	2,394	2,702	4,067	8,330	18,747	25,435	22,325	32,220	29,917	
Percentage of government current expenditure on education	8.38	6.97	8.92	7.40	4.15	2.33	4.21	7.02	5.78	8.48	6.13
Capital expenditure on education	17.37	27.14	32.02	30.08	33.07	32.71	263.08	256.55	597.14	1,194.47	
Total government capital expenditure	1,221.57	582.52	949.31	1,307.17	3,577.53	5,252.96	4,391.08	7,869.73	10,696.96	15,642.90	
Percentage of government capital expenditure on education	1.42	4.66	3.37	2.30	0.92	0.62	5.99	3.26	5.58	7.64	3.13
Total expenditure on education	129	194	273	331	379	470	1,335	1,824	2,460	3,730	
Total government expenditure	2,551	2,977	3,651	5,374	11,907	24,000	29,826	30,195	42,917	45,560	
Percentage of total government expenditure on education	5.05	6.52	7.48	6.16	3.18	1.96	4.48	6.04	5.73	8.19	5.18
GDP	2,219	3,382	4,138	10,330	15,665	38,966	46,734	59,124	74,715	84,845	
Total expenditure on education as a percentage of GDP	5.80	5.73	6.60	3.20	2.42	1.21	2.86	3.09	3.29	4.40	3.80

Note: Values are expenditures on education by central and regional education agencies, not including education expenditures by noneducation agencies. Values are actual expenditures for 1986-93, revised expenditures for 1994, and budget for 1995.

Source: Computed from figures published by the Government of Guyana.

Table 5A-3. Current and Capital Expenditure on Education by Administrative Level, Guyana, 1986-94

Level	1986	1987	1988	1989	1990	1991	1992	1993	1994	1986-94
<i>Current expenditure</i>										
<i>(millions of Guyana dollars)</i>										
Central	49	88	136	169	187	232	673	939	982	
Regional	63	79	105	132	159	205	399	629	880	
Total	111	167	241	301	346	437	1,072	1,568	1,863	
<i>Current expenditure (percent)</i>										
Central	43.5	52.9	56.5	56.3	54.1	53.1	62.8	59.9	52.7	54.6
Regional	56.5	47.1	43.5	43.7	45.9	46.9	37.2	40.1	47.3	45.4
<i>Capital expenditure</i>										
<i>(millions of Guyana dollars)</i>										
Central	14,177	19,84	22,06	21,946	24,25	21,729	221,968	217,535	508,031	
Regional	3,192	7,304	9,962	8,138	8,819	10,985	41,115	39,014	89,112	
Total	17,369	27,14	32,02	30,084	33,069	32,714	263,083	256,549	597,143	
<i>Capital expenditure</i>										
<i>(percent)</i>										
Central	81.6	73.1	68.9	72.9	73.3	66.4	84.4	84.8	85.1	76.7
Regional	18.4	26.9	31.1	27.1	26.7	33.6	15.6	15.2	14.9	23.3

Source: Based on expenditure by education agencies, computed from figures published by the Government of Guyana.

**Table 5A-4. Current Education Budget by Administrative Level, Guyana, 1995**

<b>Region</b>	<b>Millions of Guyana dollars</b>	<b>Percent</b>
Central	1,131.50	44.62
1	76.04	3.00
2	185.86	7.33
3	218.31	8.61
4	254.80	10.05
5	111.74	4.41
6	276.45	10.90
7	49.06	1.93
8	20.27	0.80
9	56.45	2.23
10	155.54	6.13
All regions	1,404.51	55.38
Central and regions	2,536.01	100.00

*Source:* Based on expenditure by education agencies, computed from figures published by the Government of Guyana.

**Table 5A-5. Current Expenditure in Personnel and Nonpersonnel Categories, Guyana, 1991–95**  
(Millions of Guyana dollars)

Subsector and category	Revised 1991	Actual budget 1992	1993	1994	1995
<i>Nursery (Georgetown only)</i>					
Personnel	6.721	19.876	26.185	33.79	60.463
Nonpersonnel	2.713	3.401	2.355	6.696	13.518
Total	9.434	23.277	28.54	40.486	73.981
<i>Primary (Georgetown only)</i>					
Personnel	19.694	52.422	64.922	82.291	125.737
Nonpersonnel	7.983	8.434	16.962	15.348	24.013
Total	27.677	60.856	81.884	97.639	149.75
<i>Secondary (Georgetown only)</i>					
Personnel	22.948	60.104	65.1	96.631	215.947
Nonpersonnel	10.924	12.772	20.193	19.089	37.403
Total	33.872	72.876	85.293	115.72	253.35
<i>Technical/vocational (under MEC only)<sup>a</sup></i>					
Personnel	6.479	17.163	20.566	23.069	28.819
Nonpersonnel	14.868	17.825	19.9	20.345	39.836
Total	21.347	34.988	40.466	43.414	68.655
<i>Teacher training</i>					
Personnel	4.268	12.436	14.272	18.17	20.71
Nonpersonnel	12.034	13.53	23.096	22.62	40.167
Total	16.302	25.966	37.368	40.79	60.877
<i>University of Guyana<sup>b</sup></i>					
Personnel				240.202	347.325
Nonpersonnel				99.488	127.99
Total				339.69	475.315

<sup>a</sup> MEC is the Ministry of Education and Culture.

<sup>b</sup> For the University of Guyana, figures for 1994 (1993–94) and 1995 (1994–95) are actual expenditures.

Source: Computed from figures published by the Government of Guyana and the University of Guyana.



**Table 5A-6. Current Education Expenditure by Subsector, Guyana and Georgetown, 1992–94**  
(Millions of Guyana dollars)

Level	1992	1993	1994
<i>Guyana</i>			
Nursery	622 <sup>a</sup>	923 <sup>a</sup>	186
Primary <sup>b</sup>			664
Secondary			496
Technical/vocational	35	40	43
Teacher training	26	37	41
University of Guyana	70	190	300
Others <sup>c</sup>	319	377	132
Total	1,072	1,568	1,863
<i>Georgetown</i>			
Nursery	23	29	40
Primary	61	82	98
Secondary	73	85	116

<sup>a</sup> Total for nursery, primary, and secondary levels.

<sup>b</sup> The value for primary school contains expenditures on secondary departments in primary schools.

<sup>c</sup> In 1994, the Ministry of Education and Culture's spending on textbooks and feeding programs (the "Others" category) was included in the "Nursery", "Primary", and "Secondary" categories. Without this inclusion, current spending on nursery, primary, and secondary education in 1994 would be G\$1,256 million (or 67.4 percent of total current spending by education agencies).

Source: World Bank (1995); expenditure by education agencies computed from figures published by the Government of Guyana.

**Table 5A-7. Current Education Expenditure by Subsector, Guyana, 1991–94**  
(Guyana dollars)

Level	Expenditure		Unit cost ratio <sup>a</sup>	
	1991	1994	1991	1994
<i>Current values</i>				
Nursery	1,530	5,836	1.30	1.09
Primary	1,174	5,354	1.00	1.00
Secondary	2,136	9,289	1.82	1.73
University of Guyana	12,248	96,998	10.43	18.12
<i>Constant values (1994 prices)</i>				
Nursery	2,510	5,836		
Primary	1,925	5,354		
Secondary	3,503	9,289		
University of Guyana	20,087	96,998		

<sup>a</sup> The unit cost ratio is the unit cost of the education subsector divided by unit cost of primary education; it does not include spending on textbooks and school feeding programs.

Source: Inter-American Development Bank (1995); expenditure by education agencies computed from figures published by the Government of Guyana.

**Table 5A-8. Current Expenditure for Education, Guyana, 1994**

Region	Current expenditure (millions of Guyana dollars)	Number of students <sup>a</sup>	Current expenditure per student <sup>b</sup> (Guyana dollars)	Relative unit cost <sup>c</sup>
<i>Primary</i>				
1	38	4,248	9,031	1.69
2	57	7,913	7,203	1.35
3	65	13,596	4,781	0.89
4	93	21,663	4,293	0.80
5	38	8,441	4,502	0.84
6	115	18,953	6,047	1.13
7	26	2,414	10,630	1.99
8	11	1,386	7,949	1.48
9	27	5,063	5,364	1.00
10	49	7,674	6,385	1.19
Georgetown	98	23,439	4,181	0.78
All regions	617	115,235	5,354	1.00
<i>Secondary</i>				
1	6	535	11,251	1.21
2	25	2,613	9,568	1.03
3	51	6,071	8,401	0.90
4	97	6,246	15,530	1.67
5	22	3,652	6,024	0.65
6	49	8,809	5,562	0.60
7	4	1,205	3,341	0.36
8	1.7	106	16,306	1.76
9	4.3	120	35,508	3.82
10	26	2,520	10,317	1.11
Georgetown	116	17,738	6,540	0.70
All regions <sup>d</sup>	464	49,949	9,289	1.00

<sup>a</sup> Secondary enrollment in primary schools is included in values for primary education, not secondary education.

<sup>b</sup> Based on expenditure by education agencies only; spending on textbooks and school feeding programs not included.

<sup>c</sup> Unit cost of region divided by unit cost of country.

<sup>d</sup> Includes central expenditure on subsidies for the Caribbean Examination Council examination.

Source: World Bank (1995); enrollment data from the Ministry of Education and Culture, Government of Guyana.

**Table 5A-9. Cost Per Student in Technical-Vocational Institutions, Guyana, 1994**  
(Guyana dollars)

Institution	Recurrent cost per student	Cost per institution		
		Furniture	Equipment	Building
Government technical institutes <sup>a</sup>	15,663	5,000	31,447	39,308
<i>Guyana Industrial Training Center</i>				
Agricultural mechanics	2,196		36,541	
Carpentry	6,637		96,560	
Electricity	12,782		21,604	
Masonry	2,031		30,353	
Plumbing	4,927		29,031	
Welding	13,049		73,437	
Average for all programs		1,121		32,969
<i>New Amsterdam Technical Institute</i>				
Business	4,500			
Automotive trades	14,000			
Fitting and machining	37,000			
Welding	49,000			
Radio and electronics	9,000			
Electrical	20,000			
Masonry	26,000			
Plumbing	24,000			
Carpentry	18,000			
Average for all programs		5,140	144,000	169,000
Carnegie School of Home Economics <sup>b</sup>	18,000	15,000	6,000	

<sup>a</sup> Average for all programs.

<sup>b</sup> Average for all programs, 1995 prices.

Source: Ministry of Education and Culture, Government of Guyana.

**Table 5A-10. Instructional Cost Per Student at the University of Guyana, 1991–94**  
(Guyana dollars)

University department	1991	1992	1993	1994	Growth rate 1991–94 (percent)
<i>Current prices</i>					
Agriculture	27,766	36,025	184,998	244,181	106
Arts	24,938	41,895	96,549	207,571	103
Education	9,935	21,459	58,810	86,349	106
Health sciences	8,644	13,514	45,963	70,698	101
Natural sciences	26,121	68,087	154,265	212,792	101
Social sciences	6,359	11,208	37,437	46,276	94
Technology	19,196	39,551	127,555	182,484	112
All departments	12,248	28,120	66,863	96,998	99
<i>Constant 1994 prices</i>					
Agriculture	45,536	46,112	214,598	244,181	75
Arts	40,898	53,626	111,997	207,571	72
Education	16,293	27,468	68,220	86,349	74
Health sciences	14,176	17,298	53,317	70,698	71
Natural sciences	42,838	87,151	178,947	212,792	71
Social sciences	10,429	14,346	43,427	46,276	64
Technology	31,481	50,625	147,964	182,484	80
All departments	20,087	35,994	77,561	96,998	69

Source: Computed from University of Guyana (1995).

**Table 5A-11. Household Education Expenditure, Guyana, 1993**  
(Guyana dollars)

Indicator	Total spending	Spending per student
<i>Expenditure by consumption quintile</i>		
All	9,421	4,450
1 (low)	4,506	1,906
2	8,105	2,380
3	7,893	4,321
4	9,746	4,694
5 (high)	15,285	7,694
<i>Expenditure by administrative region</i>		
All	9,421	4,450
1	3,661	1,295
2	7,460	3,499
3	14,349	5,824
4	9,855	4,607
5	9,759	4,728
6	8,566	4,459
7	8,690	4,845
8	3,918	1,489
9	3,073	1,148
10	7,857	3,498
Georgetown	11,682	5,643
<i>Expenditure by geographical area</i>		
All	9,421	4,450
Urban Georgetown	11,682	5,643
Other urban	7,650	3,777
Rural coastal	10,174	4,689
Rural interior	4,783	2,107
<i>Expenditure by ethnic group</i>		
All	9,421	4,450
Indo-Guyanese	10,137	5,226
Afro-Guyanese	9,833	4,439
Amerindian	3,540	1,355
Others	11,637	4,449

Note: Values are for households with children in school.

Source: Tsang (1997a).



**Table 5A-12. Secondary School Entrance Examination Results, Guyana, 1989 and 1995**

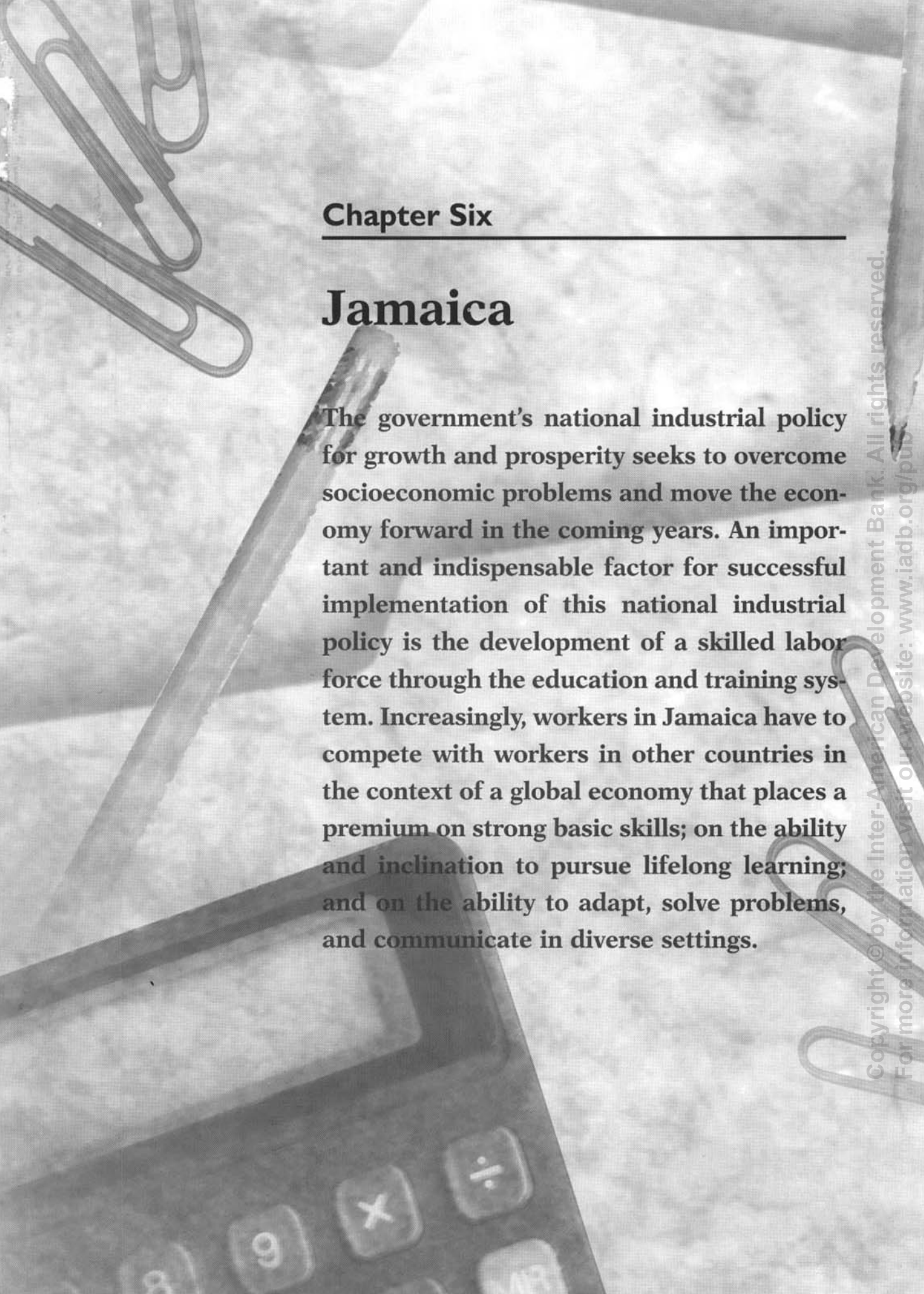
Statistic	Mathematics	English	Social studies	Science
<i>Mean</i>				
1989	17.25	21.00	19.58	16.91
1995	20.81	21.24	19.86	23.71
<i>Standard deviation</i>				
1989	8.06	10.91	9.47	6.75
1995	12.92	10.85	8.98	11.34

Source: Government of Guyana (1995c: table 11).

**Table 5A-13. Disparities in Education by Consumption Group, Guyana, 1993**  
(Percent)

Student indicator	Total	Consumption per capita quintile				
		I (low)	II	III	IV	V (high)
Paying tuition or contributions	42	20	38	45	47	55
<i>Purchasing books</i>						
Full set	3	0	3	4	2	4
Partial set	17	8	11	16	18	28
None	80	92	85	80	79	67
<i>Traveling distance to school</i>						
Less than 1 mile	72	75	76	78	73	60
1–3 miles	11	11	12	10	10	13
3–5 miles	8	6	6	5	6	14
More than 5 miles	9	8	6	7	11	13

Source: World Bank (1995c).

The background of the page is a grayscale photograph of a desk. In the bottom left corner, a portion of a calculator is visible, showing buttons for '9', 'x', and '÷'. A pen lies diagonally across the middle of the page. Several paper clips are scattered around: one in the top left, one in the middle right, and one in the bottom right. The text is overlaid on this background.

## Chapter Six

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# Jamaica

The government's national industrial policy for growth and prosperity seeks to overcome socioeconomic problems and move the economy forward in the coming years. An important and indispensable factor for successful implementation of this national industrial policy is the development of a skilled labor force through the education and training system. Increasingly, workers in Jamaica have to compete with workers in other countries in the context of a global economy that places a premium on strong basic skills; on the ability and inclination to pursue lifelong learning; and on the ability to adapt, solve problems, and communicate in diverse settings.

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Since the mid 1990s, the country's economic environment and performance have deteriorated. Recurrent large fiscal deficits have resulted not only in high real domestic interest rates, economic stagnation, and worsening of portfolio problems in the financial sector, but also a dramatic increase in the level of public debt, now representing 1.44 times gross domestic product (GDP). As a consequence, the overall debt service burden on the national budget rose to an all-time high of 61.8 percent of total government expenditure in FY1999/2000 (Government of Jamaica 1999).

In recent years, Jamaica's economic policy has emphasized maintaining exchange rate stability and keeping inflation under control through a combination of fiscal adjustment and tight monetary policy. This policy has thus far succeeded in stabilizing the exchange rate and reducing inflation from about 80 percent in the early 1990s to about 8.4 percent in FY 1999/2000 (Government of Jamaica 1999). However, this success has come at a cost in terms of high (although gradually declining) real interest rates, larger interest payments on the ever-increasing domestic debt, and lower economic growth.

During the late 1980s to 1995, Jamaica's economy had a slow but positive real growth rate. However, the unemployment rate persisted at 16 percent and was particularly high for females and youth. For example, in October 1996, the rate was 23.1 percent for females, 70.6 percent for females aged 14–19 years, and 35.9 percent for males aged 14–19 years (Statistical Institute of Jamaica 1997a).

Large economic inequality among social classes and between urban and rural areas

compounds the problems of stagnant growth and high unemployment. For example, in 1995, the per capita consumption of the top 20 percent of households was 6.3 times that of the bottom 20 percent (computed from Planning Institute of Jamaica 1997: 11). About one-third of the population live below the poverty line and 60 percent live in rural areas (Planning Institute of Jamaica 1997). In addition, violence is a significant problem with pervasive effects on society and a negative impact on the country's major industry, tourism (World Bank 1996b).

On the external side, the real appreciation the Jamaican dollar experienced up to 1998/99 has eroded the country's international competitiveness. This, together with the recent deterioration in the terms of trade, resulted in the widening of the current account deficit in FY1999/2000. In spite of these developments, the government achieved its target for external funding through a combination of successful sovereign bond issues in the European market and the forward sale of bauxite (one of the country's main traditional exports). These actions helped bring net international reserves to record levels (over US\$700 million, which is 12 weeks of import coverage) by the end of FY1999/2000 (Government of Jamaica 1999).

Jamaicans also face a challenge in strengthening democracy (Payne 1994). The country has maintained democratic elections and governance since independence in 1962. However, there are sufficient grounds for concern about the depth of political participation and about abuses in the political system. The overall effort to build a stronger nation will re-



quire strengthened democratic institutions and practices.

## Quality Basic Education for All

This study proposes that the key educational response to the current and emergent socioeconomic challenges in Jamaica is the achievement of *quality basic education for all*. Through formal schooling and alternative education programs, this response seeks to ensure that school-age children and working adults from all backgrounds achieve an acceptable level of learning in core basic skills at the grade-11 level (especially in the core subjects of language and mathematics).

Traditionally, basic education in Jamaica has been defined as education at the grade-9 level. This should be increased to the grade-11 level for a number of reasons. First, the new global economy, driven by information technology and increased reliance on science and technology, demands more skilled workers. The new level of basic education will provide stronger basic skills to enable workers to meet the demands of the emergent workplace, and it will provide a stronger foundation for lifelong learning. Second, increased access to quality learning for the disadvantaged population in grades 10 and 11 will promote social equality and social mobility, thus contributing to broad-based national development in the long run. Third, among most of the country's competitors in the global economy, education at the upper-secondary level is either already widely accessible or has been defined as a key education objective. It is important for Jamaica to make a similar effort lest it fall behind in human capital investment and thus in economic competitiveness.

The desirable skills and attitudes acquired through quality basic education include effective communication, computational and problem-solving skills; ability to work effec-

tively in teams and in diverse settings; disposition toward lifelong learning; ability to adapt and adjust; and proper attitude toward work. The acquisition of these basic skills and attitudes requires interrelated interventions in at least six areas or components of a framework for achieving quality basic education for all.

The first component, the foundation of the key education response, is quality primary education for all. Improvement in quality requires simultaneous interventions on many fronts, including student and teacher absenteeism; teacher training; assessment of student performance; instructional materials for needy schools and educational support for needy students; and the physical environment as well as pedagogy and the curriculum. The education system should make sure that by the end of the primary cycle, students from all backgrounds achieve an adequate level of learning in an appropriately defined primary curriculum. The system should give particular attention to students from poor and rural backgrounds. All primary graduates should be ready for the transition to secondary education. Currently, too many primary school graduates are behind their grade level but are still promoted to grade 7. These students continue to perform poorly in secondary school.

The second component in achieving quality education for all consists of a multi-dimensional reform of secondary education in terms of access, curriculum, structure, quality, and equalization (World Bank 1998). This reform should include the following: expansion of access to grades 10 and 11; upgraded and revised secondary school curriculum to emphasize core general education subjects; gradual movement toward one-cycle, five-year secondary schooling; gradual movement toward institutional uniformity; upgraded teacher qualification (requiring a university degree) and training; and improved training for school administrators.



The third component is to improve the preparation of teachers. At both the primary and secondary education levels, there is an urgent need to provide training for the increasing number of untrained teachers. At the same time, programs preparing new entrants need to be upgraded. Interventions in teachers' colleges may include expanding degree programs for the preparation of secondary teachers, rationalizing programs to improve internal efficiency and quality, improving the qualifications of lecturers, and merging some institutions to reduce unit costs. The key challenge for teachers' colleges is to produce more with the current level of funding. In addition, the education system needs to strengthen computer literacy in basic education, and students in teachers' colleges should receive training in the new educational technology.

The government (the fourth component) and parents and the community (the fifth component) have to intensify their support for educational institutions in order to achieve quality basic education for all. For example, the government should increase its fiscal allocation for education to 15–16 percent of total government expenditures and maintain its fiscal effort at that level. It should maintain the current distribution of expenditures within the sector, with a slight increase for primary and secondary education. Within primary and secondary education, the government should target additional resources for students from poor and rural backgrounds. Parents and community members could contribute to basic education in a variety of ways. Perhaps the most cost-effective way would be to strengthen the relationship between schools and parents and the community.

Parents could work more closely with school staff to increase student attendance, and students should know that both parents and school staff care about their learning. Increased parent involvement in schools and increased

student attendance would likely lead to less teacher absenteeism and more teacher effort.

In addition to the expansion of secondary education, youths and adults should have a second chance and incentives to acquire a general secondary education certificate or its equivalent (the sixth component). The education system could provide alternative programs to a variety of learners so they could acquire such an educational qualification. First, it should expand education and training programs at the post-grade-9 level to accommodate out-of-school youths aged 15–17 years. These programs would not only provide an opportunity for these youths to learn more skills, but also would keep them off the street. Currently, the HEART Trust/NTA offers programs only to youths aged 17 years and over. One option for filling the education gap would be to extend the mandate for the HEART Trust/NTA to include youths aged 15–17 years.

Second, the education system should make available a variety of programs, including evening programs, distance education, and secondary adult education programs organized by the government, the community, or the private sector. These programs would enable adults to acquire a secondary education certificate or its equivalent that is approved by a credible agency or organization. It is important that the Ministry of Education and Culture (MOEC) and employers recognize this certificate. Individuals with such a certificate could apply for post-secondary education programs or for employment requiring a secondary education qualification. All these programs should enable the learner to acquire the core basic skills deemed necessary for effective participation in the workplace and society. Special effort should be made to expand access to such programs for youth and the poor. Private sector participation should be encouraged.

Although quality basic education for all is the primary education response to the cur-

rent and emergent socioeconomic challenges facing Jamaican society, it is nonetheless important to strengthen tertiary education. Efforts to improve the quality and internal efficiency of tertiary education should not be confined to teachers' colleges; such efforts should be extended to community colleges as well. At the same time, it is necessary to improve the responsiveness of community colleges and technical and vocational education and training (TVET) programs to the changing needs of the labor market.

## Education and Society in Historical Perspective

Historically, education has been an important institution of Jamaican society, from its colonial past to its post-independence period since 1962. With the spread of schools around the country, particularly through schools built and operated by religious denominations and other community organizations, functional literacy has climbed upward, especially during the first half of the twentieth century. For example, according to the population census, the percentage of the population aged 10 years and over that could read and write increased from 58.3 percent in 1921 to 73.8 percent in 1943 to 83.9 percent in 1960 (Statistical Institute of Jamaica 1997b). A more recent survey shows that in 1987, the functional literacy rate among the population aged 15 years and over was 86.9 percent (Statistical Institute of Jamaica 1997b: 169–70).

The development of education reflects the country's colonial heritage, changes in people's rights based on ethnicity and gender, and changing economic conditions. The colonial heritage traces back to the arrival of the Spanish and Columbus in 1494 (Miller 1990). Europeans soon displaced the indigenous Arawak Indians and took control of the island. In 1655,

Britain replaced Spain as the colonial power and ruled for the next 300 years. British education had an explicit and significant influence on the Jamaican education system, including the curriculum and examination practices.

During the colonial period, Jamaican society was characterized by a race-based power structure with a small white minority at the top, the black majority at the bottom, and others in the middle. Historical studies indicate that the development of education in the nineteenth and twentieth centuries reflected and reinforced this hierarchy (King 1972; Woolcock 1984; Miller 1990). For example, before 1944, segregated education institutions served different ethnic groups. In particular, the education system relegated black students to inferior elementary schools and teachers' colleges, while whites and other minorities attended preparatory and high schools.

The external context for the development of education underwent fundamental changes starting in the 1940s. Through prior resistance and struggles, the black population was enfranchised in the 1940s through constitutional changes in support of adult suffrage and majority-rule government. Thus, increasingly, politicians had to respond to the demands (including the demand for education) of the black majority. In addition, as Great Britain's power faded on the world scene, multilateral agencies, such as the World Bank, gained more influence on Jamaica's education system.

Most of the education reform initiatives between the 1940s and the 1980s focused on the development of post-primary education, particularly the expansion and diversification of secondary education. Secondary education expanded to meet the social demand, proliferating to address the change from an agricultural to a manufacturing economy and to reinforce social stratification (Woolcock 1984). Although black students almost exclusively populated junior secondary schools and

the secondary grades in all-age schools (the lowest-quality schools), an increasingly larger number were admitted to the prestigious high schools that thus became more racially mixed. The other types of secondary schools (comprehensive schools and vocational/technical schools) also enrolled students from various racial backgrounds. In the past few decades, social stratification based on race has become fuzzier, and class has become a more relevant construct for understanding relationships among population groups.

In addition to structural changes in post-primary education, the administration of education went through major changes in the late 1940s and early 1950s. Most notably, administrative power shifted from colonial officials to elected representatives, and the government integrated the separate education agencies into a single Ministry of Education (Miller 1990).

Studies show that boys outperformed girls in the early decades of the twentieth century, but that situation was reversed by 1959 (Manley 1963; Miller 1986). In more recent years, females have been more represented in high schools and post-secondary education. Some researchers point out that the focus on authoritarianism and regimentation in school tends to suit girls more than boys, and that the feminization of the teaching profession also contributes to support for female education. In addition, the successful implementation of an explicit policy of equal access to schooling for both genders allows females to gain admission to and stay in school. Some observers say that boys and girls are exposed to different experiences in school; for example, school textbooks portray different role models for boys and girls, and boys and girls take different subjects or majors (Hamilton and Leo-Rhynie 1979–80). Other analysts suggest that the underachievement of boys could be attributed to the “macho” attitude of boys, which is inconsistent

with the academic ethos of school (Parry 1997). In fact, boys’ more-frequent absence from school is becoming an emerging problem for educators and administrators, who recognize that boys’ lower educational achievement is an important education issue.

## Structure of the Education System

The current structure of the education system can be traced to the Education Act of 1980, according to which the formal education system has four levels: early childhood, primary, secondary, and tertiary. The government is the primary provider of education; private sector participation is quite small. With the expansion of education programs financed by the government, the educational attainment of the population has risen over time. For example, in 1982 there were 193 secondary students and graduates and 10 university students and graduates per 1,000 people in the country; there were 295 and 13, respectively, in 1991 (computed from Statistical Institute of Jamaica 1997b: 129, 131). The country has made impressive quantitative achievements in education.

Table 6-1 presents the structure, enrollment, and entrance requirements of the education system. Early childhood education is aimed at children aged 4 to 5 years in infant and basic schools, infant departments of primary and all-age schools, as well as children aged 3 to 5 years in nursery and kindergarten schools. About 90 percent of children aged 4 and 5 years are enrolled in early childhood programs (Government of Jamaica various years).

Primary education is provided to children aged 6 to 11 years, in a six-year program in primary, all-age, primary and junior high schools, and preparatory schools. Preparatory schools are private schools that have about 5 percent of the total primary enrollment. Pri-

**Table 6-1. The Education System in Jamaica**

Subsector	Age of students	Years of school	Enrollment 1998/99	Female (percent)	Entrance requirement <sup>a</sup>
<i>Early childhood</i>					
Basic schools, recognized	4–5	2	114,168	50.0	4 years old
Basic schools, unrecognized	4–5	2	8,840	50.0	4 years old
Infant schools	4–5	2	10,005	49.3	4 years old
Infant department	4–5	2	6,948	50.4	4 years old
Total			139,961	50.0	
<i>Primary</i>					
Primary	6–11	6	177,569	49.9	6 years old
All-age (grades 1–6)	6–11	6	70,280	47.7	6 years old
Primary and junior high (grades 1–6)	6–11	6	54,208	49.4	6 years old
Preparatory (private) <sup>b</sup>	6–11	6	22,735	49.3	6 years old
Total			324,792	49.3	
<i>Secondary</i>					
All-age (grades 7–9)	12–14	3	24,231	40.7	Promoted from same primary school
Primary and junior high (grades 7–9)	12–14	3	25,245	45.6	Promoted from same primary school
Secondary high <sup>c</sup>	12–18	7	75,568	57.5	CEE 11+, GNAT, and JHSC
Comprehensive high <sup>d</sup>	12–16	5	86,098	49.3	CEE 11+ and JHSC
Technical high	13–16	4	16,657	51.5	CEE 13+
Vocational/agricultural <sup>e</sup>	15–16	2	677	51.0	GNAT
Independent secondary <sup>b</sup>	12–18	7	6,854	50.8	
Total			235,330	50.8	
<i>Tertiary</i>					
Community colleges <sup>f</sup>	17–18	2	4,944	65.2	CXC
Teachers' colleges	17–19	3	3,490	—	CXC
University of West Indies	19–21	3	7,107	65.7	GCE "A" level
University of Technology	19–21	3	6,009	52.7	GCE "A" level
Edna Manley College of Visual and Performing Arts			294	51.0	CXC
Total			21,844	—	

— Not available.

<sup>a</sup> CEE is the Common Entrance Examination; GNAT is the Grade Nine Achievement Test; JHSC is the Junior High School Certificate; CXC is the Caribbean Examination Council examination; and GCE is the General Certificate of Education examination.

<sup>b</sup> Preparatory and independent high schools vary in the range of grade levels offered.

<sup>c</sup> Some secondary high schools offer grades 12–13 for students who will take the GCE "A" level examination.

<sup>d</sup> In 1998/99, all 18 remaining new secondary schools were converted to comprehensive high schools. According to the Ministry of Education and Culture, further restructuring of schools would take place so that only secondary high schools and technical high schools would remain in 2000/01.

<sup>e</sup> Secondary vocational/agricultural schools offer grades 10–11 or 10–12.

<sup>f</sup> Community colleges offer programs at both the secondary and post-secondary levels. Data are for 1994–95.

Source: Ministry of Education and Culture, Government of Jamaica.

mary, all-age, and primary and junior high schools are government-operated and financed. With a net enrollment rate of 93.3 percent in 1998–99, Jamaica has achieved near-universal primary education (Government of Jamaica various years).

Secondary education consists of two cycles: the first cycle of grades 7–9 has a net enrollment rate of about 83 percent, and the second cycle of grades 10–11 has a net enrollment rate of about 46 percent (Government of Jamaica various years). Secondary education is stratified by education level and by type of institution. Five-year programs (grades 7–11) are offered in secondary high schools and comprehensive high schools (some of these schools also offer grades 12–13 for students taking the General Certificate of Education Advanced level examination, the GCE “A”). In 1998/99, all 18 remaining new secondary schools (offering grades 7–11) were reclassified as comprehensive high schools. In 1999, all comprehensive high schools were reclassified as secondary high schools. All-age schools and primary and junior secondary schools offer the first cycle of secondary education only.

In 1998, among the 39,700 students who sat for the secondary entrance examination (known as the Common Entrance Examination, CEE), 79.8 percent were placed in secondary high schools and comprehensive high schools, 12.2 percent in primary and junior high schools, and 8 percent in all-age schools (Government of Jamaica various years). The government discontinued the CEE in 1999 and replaced it with the Grade Six Achievement Test (GSAT). The move from the CEE to the GSAT is the most significant accomplishment of the National Assessment Programme undertaken by the government with support from the Inter-American Development Bank (IDB).

Unlike the CEE, the GSAT is curriculum-based, and thus restores valuable instructional time to the teachers and their students.

Secondary students in all-age schools are given an opportunity to move to other secondary schools. For example, the CEE 13+ examination selects students from grades 7 and 8 of all-age schools to enroll in a four-year program (8–11) in technical high schools; and the Grade Nine Achievement Test (GNAT) selects grade-9 students from all-age schools to enroll in grade 10 in secondary high schools. Similarly, the Junior High School Certificate (JHSC) selects grade-9 students from primary and junior high schools to enroll in grade 10 in secondary high schools and comprehensive high schools.

The Jamaica School Certificate (JSC) is an examination at the grade-9 level, taken mainly by out-of-school persons and some grade-9 students in all-age schools. The Secondary School Certificate (SSC) is a termination examination at the grade-11 level, taken mainly by students from new secondary schools. The Caribbean Examination Council (CXC) exam is a terminal examination for secondary graduates and also a selective examination for post-secondary education, taken mainly by students from secondary and comprehensive high schools. Independent secondary schools account for about 3 percent of total secondary enrollment (Government of Jamaica various years).

Tertiary institutions offer a variety of post-secondary programs. The University of West Indies offers undergraduate and post-graduate programs in agriculture, arts, general studies, education, engineering, law, medicine, social sciences, and natural sciences. Six teachers' colleges offer professional training in teacher education for early childhood, primary, secondary, and special education. Six community colleges (multidisciplinary colleges) offer pre-university, professional, commercial, and vocational training as well as community-oriented courses. The University of Technology (formerly known as the College of Arts, Science, and Technology) offers technical programs in various disciplines.



In addition, a number of small institutions (such as the College of Agriculture, Sciences, and Education; the G.C. Foster College of Physical Education; and the Edna Manley College of Visual and Performing Arts) offer programs in some specialized areas. The government primarily funds tertiary education institutions.

Northern Caribbean University, previously called West Indies College, is a private university that received its university status in 1999. The University Council of Jamaica is responsible for accrediting tertiary-level programs in private institutions. In 1998/99, there were 2,568 students enrolled in these programs (Government of Jamaica various years).

In addition to the technical-vocational programs offered at the University of Technology and the College of Agriculture, Sciences, and Education, the HEART Trust/NTA provides technical-vocational education and formal and nonformal skills training at various levels. A levy of 3 percent of the wage cost of enterprises finances programs offered by the HEART Trust/NTA, which are open to individuals aged 17 and over with at least a grade-9 education. In 1996, HEART Trust/NTA skills training programs had a total enrollment of 16,876 (HEART Trust/NTA various years).

Table 6-1 shows that, overall, boys and girls are about equally represented at the early childhood, primary, and secondary levels. However, at the secondary level, girls are clearly more represented in the prestigious high schools than boys are, while the reverse is true for the less prestigious secondary vocational/agricultural schools. Since high schools are the main route to post-secondary education, it is not surprising that females are the majority in the tertiary institutions.

Religious denominations have had a long tradition of building and operating schools in Jamaica, especially before national independence. Even today, religious denominations run many of the secondary schools. Since national independ-

ence and the implementation of the 1980 Education Act, education has been brought more and more under the financing of the central government, with increasing control by MOEC.

Two political appointees, the Minister of Education and the Minister of State, head MOEC. All subordinates to the ministers are career civil servants. MOEC is responsible for establishing national education policy, with consultation from the National Council of Education. The Educational Services Division within MOEC is concerned with the detailed policy, assessment, curriculum, and supervision of various levels of education. Central allocation for education institutions at various levels is contained in the education budget of MOEC.

In early childhood education, the government builds and finances infant schools and infant departments. The community initiates and operates basic schools. Recognized basic schools are schools that meet the minimum educational standards set by the government; they receive government subsidies for teacher compensation, instructional materials, and meals. Unrecognized basic schools receive financial support from the community only. MOEC provides supervision and curriculum support to basic schools and trains teachers for these schools. It has a unit that operates the early childhood program (for children aged 0–5 years) that includes the day care program.

At the primary level, primary, all-age, and primary and junior secondary schools are government schools financed by MOEC. At the secondary level, government-aided schools fall into two categories: schools built and run by the government, and schools built and run by religious denominations and other community organizations. Most of the secondary and comprehensive high schools are under the second category. Preparatory and independent schools are private schools that have to meet

the government's minimum educational standards; they are responsible for their own finances and operation. Tertiary education institutions are primarily funded by MOEC. Educational institutions at the primary, secondary, and tertiary levels all have an education board that sets institutional policy.

Since 1996, the administration and supervision of early childhood, primary, and secondary education has been decentralized, from the central level to the regional level. The decentralization has taken the form of administrative deconcentration, by which administrative and supervisory activities are moved from MOEC's central office to its six regional offices in Kingston, Port Antonio, Brown's Town, Montego Bay, Mandeville, and Old Harbour. Government funds for education institutions at these three levels still come from budgetary allocations of the central government, but the regional offices handle the disbursement of such funds. However, the disbursement of teachers' salaries has not been decentralized.

This case study reviews the financing of the entire education sector in Jamaica. It examines financing sources, patterns of expenditures, and the impact of expenditures on efficiency and equity in the sector. The study is aimed at (1) identifying opportunities for improving education efficiency and equity; (2) exploring options for mobilizing additional resources for education and cost savings; and (3) assessing the government's fiscal burden and thus the capacity for meeting the financial requirements for investment in education.

The study is based on a review of government documents and previous studies; analysis of data from various sources; interviews of government officials at various levels in several ministries, representatives from the international donor community, representatives from the Jamaica Teachers Association,

and other key stakeholders; as well as on-site visits to education institutions. The collection of data and analysis of activities are informed by a common set of concerns across education levels, that is, concerns to mobilize adequate resources, improve quality and efficiency, and reduce inequity and inequality.

## Education Expenditures and Financing

### *Public Expenditures<sup>1</sup>*

Public expenditure on education consists of recurrent and capital expenditures on education by the central government. At the central level, MOEC makes most of the expenditure, although several noneducation agencies also spend on education and training activities. The overwhelming majority of MOEC's budget is allocated for education programs, with the rest for cultural programs.

MOEC's budget contains the expenses of its six regional offices, that is, it supports the administrative and supervision costs of the regional offices. Through a number of direct grants (for instruction, direction and administration, and maintenance) to government-aided educational institutions at various levels, MOEC provides support for the recurrent costs of these institutions. MOEC is also responsible for the capital costs of government-operated education institutions. Independent (private) education institutions do not receive government funding. Government-aided but church-operated education institutions are also responsible for their capital needs. Under a cost-sharing scheme, secondary schools can charge fees to support their recurrent costs.

<sup>1</sup> Data in this section are computed from information from the Ministry of Education and Culture and the Ministry of Finance and Planning, Government of Jamaica.

Such fees are raised and used at the school level and are not considered part of public expenditure on education.

### *The Government Budget for Education*

The total education budget in 2000/01 was 18,147.6 million Jamaica dollars (J\$), which amounted to 5.8 percent of projected GDP and 10.8 percent of the government's budget. Table 6-2 shows the distribution of the budget for education among subsectors.

Other government agencies make expenditures related to education and training. For example, the Ministry of Finance and Planning is responsible for payments on teachers' pensions, the HEART Trust/NTA has a budget for a variety of education and training programs, the Ministry of Health pays for training health professionals and staff, and the Ministry of Labor, Social Security and Sport funds a school feeding program. While education expenditure by noneducation agencies fluctuates over time, it amounts to about 10 percent of MOEC's education spending.

MOEC's nominal total education expenditure increased rapidly from J\$1,473 million in 1990/91 to J\$12,147 million in 1996/97, an annual rate of increase of 42.1 percent. In 1990 prices, real education expenditure increased from J\$1,473 million to J\$2,006 million over the same period, an annual increase of 5.3 percent. The substantially lower real annual growth rate was due to double-digit inflation rates in the 1990s. High rates of inflation meant that MOEC's real education expenditure actually declined to a low of J\$1,056 million (in 1990 prices) in 1992/93 before pursuing a fluctuating upward trend.

Between 1990/91 and 1998/99, government education expenditure averaged 11.95 percent of total government expenditure (a fiscal-effort indicator), and 5.28 percent of GDP (a national-effort indicator). Both indicators

have been on a rising trend since 1994/95. Such a trend is consistent with the government's increasing political commitment to education. Compared with earlier years, 1997/98 represented an unusually strong year for the education sector in terms of the government's fiscal effort. For example, the fiscal-effort indicator rose from 10.92 percent in 1996/97 to 14.90 percent in 1997/98. Such an intensification of fiscal effort was needed to accommodate an increase in teachers' salaries and other personnel costs.

The increased attention to the education sector in the past few years is a positive development that should be applauded, particularly because of the important contribution of education to national development. However, careful consideration should be undertaken before raising fiscal effort significantly above the level of 15–16 percent, in order to avoid harmful effects on other sectors. The government has incurred substantial internal and external debts over the years. Debt payments impose a large burden on the government's fiscal resources and sharply constrain its ability to finance expenditure on education and other sectors. For example, in the first nine months of FY 1996/97, interest payments constituted 43.8 percent of government recurrent expenditure and 26.9 percent of total government expenditure.

### *Utilization of Public Education Expenditure*

Between 1990/91 and 1996/97, an average of 34.5 percent of MOEC's public education expenditure was spent on primary education, 33.6 percent on secondary education, 21.6 percent on tertiary education, and 10.2 percent on other subsectors. The share for secondary education was relatively stable. But the shares for primary and tertiary education fluctuated, with one increasing at the expense of the other. Since 1994/95, the share for primary education has been on a rising trend with a corresponding declining trend for tertiary edu-

**Table 6-2. The Government Budget for Education, Jamaica, 2000/01**  
(Millions of Jamaica dollars)

Subsector	Budget
Central/general administration	786.7
Early childhood education	822.2
Primary education	6,702.6
Special education	227.9
Secondary education	5,977.9
Tertiary education	3,322.8
Adult and continuing education	50.4
Library services	256.9
Total	18,147.6

Source: Ministry of Education and Culture, Government of Jamaica.

cation. Based on the data in table 6-2, in the 2000/01 education budget, the share was 36.93 percent for primary education, 32.94 percent for secondary, and 18.31 for tertiary. Thus, relative to the historical average level in the 1990s, a higher share was devoted to primary education and a lower share to tertiary education. The share for secondary education was close to its historical average level in the 1990s.

Between 1990/91 and 1996/97, recurrent costs accounted for 91.3 percent of MOEC's total educational expenditure. The average share of capital cost, at 8.7 percent, was indicative of underspending on physical facilities. The average capital share is 10.5 percent for primary education. A cursory visit to primary schools in Jamaica shows that the physical environment in many of them is not conducive to learning. Information from MOEC also indicates that many primary and secondary schools lack a substantial amount of furniture. The average capital share is even lower for secondary and tertiary education. In secondary education, many schools not operated by the government are responsible for their own capital needs; thus, government capital expenditure is negligible or nonexistent. Since 1992/93, there has been hardly any govern-

ment investment in physical facilities in tertiary institutions; these institutions also have to try to mobilize resources by themselves to address some of their capital needs.

MOEC's recurrent education budget increased substantially from J\$11,308 million in 1996/97 to J\$14,374 million in 1997/98, corresponding to a 27.1 percent nominal growth rate. However, much of the increase was taken up by the large increase in teacher costs as a result of an agreement signed by the government and the Jamaican Teachers Association in 1996 to increase teachers' salaries in 1997 and 1998. For example, the recurrent budget for primary education increased by J\$1,466 million, from J\$3,914 million in 1996/97 to J\$5,380 million in 1997/98. The instructional cost of primary and all-age schools alone increased by J\$1,486 million, from J\$3,287 million in 1996/97 to J\$4,773 million in 1997/98 (a 45.2 percent increase). In 1997/98, compensation for teachers in primary and all-age schools accounted for 90.9 percent of the instructional cost of these schools.

Similarly, the recurrent budget for secondary education increased from J\$3,720 million in 1996/97 to J\$4,715 million in 1997/98. And the instructional cost of secondary schools (high schools, comprehensive schools, and new secondary schools) alone increased from

**Table 6-3. Expenditure on Education Per Student, Jamaica, 1992/93–1994/95**

Subsector	1992/93	1993/94	1994/95
<i>Value (Jamaica dollars)</i>			
Early childhood	546	966	789
Primary	2,315	3,719	2,939
Secondary	5,029	8,460	6,920
Tertiary	36,877	43,084	45,675
<i>Relative unit cost ratio</i>			
Early childhood	0.24	0.25	0.27
Primary	1.00	1.00	1.00
Secondary	2.17	2.27	2.35
Tertiary	15.93	11.58	15.54

Source: Ministry of Education and Culture, Government of Jamaica.

J\$2,307 million in 1996/97 to J\$3,562 million in 1997/98 (a 54.4 percent increase). In 1997/98, compensation for teachers in secondary schools accounted for 96.3 percent of the government-supported instructional cost of these schools. Thus, the total increase in instructional cost in primary and secondary schools (J\$2,742 million) accounted for 89.4 percent of the total increase in the recurrent budget of the entire education sector (J\$3,067 million).

#### *Unit Expenditures on Education*

Table 6-3 presents real educational expenditure per student (MOEC's recurrent and capital expenditure) by subsector for 1992/93 to 1994/95. In all four subsectors, real educational expenditure per student increased between 1992/93 and 1994/95. However, except for the tertiary subsector, the unit expenditure in 1993/94 was actually higher than that in 1994/95. Both the fiscal, and national-effort indicators reached a local maximum in 1993/94.

Table 6-3 also shows the ratio of unit cost by subsector, with the unit expenditure in primary education as the denominator. Not surprisingly, tertiary education is substantially more expensive than the other subsectors. Over the

three-year period, early childhood education and secondary education gained slightly over primary education; tertiary education experienced a sharp decline from 1992/93 to 1993/94 and then regained its relative level in 1994/95.

Information from MOEC indicates that in 1998/99, expenditure per student was J\$3,858 for pre-school education, J\$19,672 for primary education, and J\$24,992 for secondary education. Using primary education as the basis for comparison, the relative unit cost was 0.20 for pre-school education and 1.27 for secondary education. Thus, compared with the 1992–95 period, the relative unit cost ratio declined for pre-school and secondary education in 1998/99. In other words, expenditure per student on primary education gained ground relative to the other education levels.

#### *Private Expenditures*

In Jamaica, private resources are an important part of the financing of education and training. Households make direct expenditures on children's education, such as spending on tuition and other school fees, uniforms, private lessons, transportation, books and supplies, and room and board. With the introduction of the



**Table 6-4. Annual Household Expenditure on Education Per Capita, Jamaica, 1995**

Household group	Mean	Relative to national average (percent)	Relative to lowest group (percent)
<i>Geographical area</i>			
Kingston metropolitan area	1,521	149	224
Other towns	1,037	102	153
Rural areas	678	66	100
<i>Consumption quintile</i>			
1 (low)	399	39	100
2	559	55	140
3	702	69	176
4	957	94	240
5 (high)	2,237	219	561
Total	1,021	100	

Source: Planning Institute of Jamaica; Statistical Institute of Jamaica (1997b: 64).

cost-sharing scheme in 1994 (Government of Jamaica 1996b), school fees became the major source of funding for the operating costs of secondary schools in the country. For tertiary education, students have to pay tuition equivalent to 15 percent of the per student economic cost of operating the institutions. Community members, civic groups, alumni (both domestic and overseas), and church-related organizations are important sources of funding for schools, especially for physical facilities and financial assistance to students. The government requires employers to contribute 3 percent of their wage cost to training organized by the HEART Trust/NTA.

### *Household Expenditure*

Through the Survey of Living Conditions, the Planning Institute of Jamaica and the Statistical Institute of Jamaica regularly collect and analyze information on household expenditures on education. According to this survey, household expenditures on education constituted 2.9 percent of total household consumption in 1995. This share was equal to 1.4

percent in 1991, 2.7 percent in 1992, 2.3 percent in 1993, and 2.4 percent in 1994. The relatively low share in 1991 was probably due to the slowdown in economic growth that year. Household expenditure on education averaged about 2.6 percent of total household consumption during 1992–95.

Table 6-4 presents the mean annual per capita household expenditure on education in 1995. It demonstrates the large disparities in spending levels among geographical areas and consumption groups. For example, households in the Kingston metropolitan area spent as much as 2.24 times more on education than those in rural Jamaica. Households in the top quintile spent as much as 5.61 times more than those in the bottom quintile.

Table 6-5 shows the actual fees charged by different types of secondary schools in 1995/96 and 1996/97. Secondary high schools had the largest fee, followed by technical high schools, comprehensive high schools, and new secondary schools. The different fee levels imply large disparities in resources for different school types, although the disparities declined over the two-year period. In the fall term of

**Table 6-5. Secondary School Fees by School Type, Jamaica, 1995/96 and 1996/97**

School type	1995/96		1996/97	
	Jamaica dollars	Percentage of lowest group	Jamaica dollars	Percentage of lowest group
New secondary	1,217	100	2,457	100
Secondary high	3,641	299	4,661	190
Comprehensive high	1,731	142	2,854	116
Technical high	3,415	281	4,197	171
All	2,558	210	3,611	147

Source: Ministry of Education and Culture, Government of Jamaica.

1996, 120 schools collected a total of J\$331.2 million from 106,892 secondary students.

In 1995, total household expenditure on education was estimated to be J\$2,556 million. That same year, MOEC's total expenditure was J\$6,814 million (Ministry of Education and Culture, Government of Jamaica). In other words, total household education expenditure amounted to 37.5 percent of MOEC's public education expenditure. Thus, households provide a significant source of funding for education as well as a significant source of educational inequality.

### *Community Contribution*

The Survey of Living Conditions shows that both the government (through its Student Assistance Program) and "other sources" provide financial assistance to needy secondary students to pay school fees. These "other sources" include churches and private sector organizations, civic organizations, and other persons and agencies. The data in table 6-6 on the average amount of financial assistance from the government and from the other sources indicate several tendencies. First, financial assis-

**Table 6-6. Financial Assistance to Secondary Students, Jamaica, 1995**  
(Jamaica dollars)

Household group	Assistance from government	Assistance from other sources
<i>Geographical area</i>		
Kingston metropolitan area	1,346	3,839
Other towns	707	2,500
Rural areas	976	1,641
<i>Consumption quintile</i>		
1 (low)	1,400	1,445
2	569	1,568
3	1,148	1,906
4	621	3,944
5 (high)	0	3,767

Source: Planning Institute of Jamaica; Statistical Institute of Jamaica (1997b: 95).

tance from other (community) sources was much higher than that from the government program. Second, financial assistance from other sources favored urban households and the wealthiest consumption groups. Third, government assistance was relatively more egalitarian than community assistance.

Through the church, private organizations, alumni groups, and other community members and groups, nongovernmental education institutions raise funds to finance their capital costs. Although information on community contributions for facilities and equipment is not readily available, the total amount of such contributions is likely to be substantial. Recently, the government organized an "adopt a school" program by which companies provide assistance to needy schools. So far, more than 100 primary and secondary schools are involved in this program.

### *Employer-Financed Education and Training*

An act of Parliament in 1982 established the Human Employment and Resource Training (HEART) Trust to develop and monitor training programs, assist persons seeking employment, and promote employment projects. In 1991, the HEART Trust was reorganized and mandated to become the National Training Agency (NTA). the HEART Trust/NTA now operates as a semiautonomous organization under MOEC, with a board of directors appointed by the minister. The agency is primarily financed by a 3 percent payroll contribution from employers whose monthly payroll exceeds a certain level. In 1995/96, the HEART Trust/NTA's total revenue and expenditure were J\$1,270 million and J\$845 million, respectively (HEART Trust/NTA 1996). The HEART Trust/NTA offers a large variety of training programs to persons aged 17 years and older who have completed at least grade-9 education, through vocational training cen-

ters, academies, the Jamaican-German Automotive School, and special programs.

### *Private Education*

Enrollment in private education institutions is a small part of total enrollment in Jamaica. Private education institutions have to be registered with MOEC and follow its guidelines for instruction and facilities. An independent-school unit is set up within the Educational Services Division of MOEC to deal with matters concerning such schools. Private education institutions receive no funding from the government; they set their own fees and have a lot of autonomy from the ministry. The government gives them an exemption on property tax.

Table 6-7 shows the percentage of private enrollment during 1993–95. For the country as a whole, private enrollment declined from 5.0 percent in 1993 to 3.1 percent in 1995. Private education is most prevalent at the early childhood education level (students aged 3–5). Participation in private education is clearly related to household consumption levels. Children from the top consumption group (presumably the wealthiest households) are substantially more represented in private education than children from the other groups. In addition, private school students are more likely to be found in urban areas than in rural areas. In 1993 and 1994, female students had a larger share than male students, but the reverse was true in 1995.

Private education institutions derive their revenue mainly from fees, which are substantially higher than those charged in government-assisted institutions. For example, one of the preparatory schools in Kingston charged a total fee of J\$47,700 for the academic year in 1997–98. It was able to provide its teaching staff average compensation 10–15 percent higher than what teachers earn in government primary schools. Most of the preparatory schools' classes have 15 to at most 25

**Table 6-7. Enrollment in Private Education Institutions, Jamaica, 1993–95**  
(Percentage of total enrollment)

Category	1993	1994	1995
<i>Geographical area</i>			
Kingston metropolitan area	9.4	5.8	3.7
Other towns	5.4	8.0	3.4
Rural areas	2.3	2.5	2.5
<i>Consumption quintile</i>			
1 (low)	1.7	1.2	1.5
2	2.9	1.4	1.4
3	2.7	4.6	1.7
4	3.4	6.3	3.0
5 (high)	15.6	10.5	9.9
<i>Gender</i>			
Male	4.8	3.6	3.2
Female	5.1	5.4	2.9
<i>Age (years)</i>			
3–5	23.5	19.7	8.5
6–11	6.2	4.6	3.8
12–14	2.4	2.7	1.0
15–16	2.0	5.3	2.8
17–19	7.5	9.0	4.6
20–24	0.0	0.0	0.0
Total	5.0	4.5	3.1

Source: Planning Institute of Jamaica and Statistical Institute of Jamaica (1995–1997b).

students, while class sizes of 30–40 students are common in government primary schools. In short, private schools serve a small percentage of students, mainly from well-to-do families in urban areas.

### External Resources<sup>2</sup>

#### Government Capital Expenditure on Education

In MOEC's budget, capital projects are divided into two groups. "Capital A" projects are financed by the government alone. "Capital

B" projects are jointly financed by the government and bilateral/multilateral organizations, such as the IDB, the World Bank, the United States Agency for International Development (USAID), and the British Overseas Development Agency. In table 6-8, bilateral/multilateral projects account for the great majority of public capital expenditure on education.

Among the bilateral/multilateral projects in 1993/94 to 1997/98, primary education received the largest share, followed by secondary education. These two subsectors together accounted for three-quarters of the expenditure made on these projects (see table 6-9). In fact, since 1995/96, the share for primary and secondary education has been on the increase, with a corresponding decrease in the other sub-

<sup>2</sup> Data in this section are computed from information from the Ministry of Finance and Planning, Government of Jamaica.

**Table 6-8. Government Capital Expenditure on Education, Jamaica, 1993/94–1997/98**  
(Millions of Jamaica dollars, current prices)

Category	1993/94	1994/95	1995/96	1996/97 <sup>a</sup>	1997/98 <sup>b</sup>
Total capital expenditure	434.52	659.87	660.34	839.50	1,507.25
Domestic projects	83.22	150.37	90.34	118.50	307.25
Bilateral/multilateral projects	351.30	509.50	570.00	721.00	1,200.00
Bilateral/multilateral projects (percent)	80.85	77.21	86.32	85.88	79.62

<sup>a</sup> Revised estimates.

<sup>b</sup> Estimates.

Source: Ministry of Finance and Planning, Government of Jamaica.

sectors. This trend reflects the government's priority in capital investment in education.

In 1993/94, MOEC's total capital expenditure on education amounted to J\$434.52 million; external sources financed 28.1 percent of this expenditure, and domestic resources financed 71.9 percent. In 1997/98, MOEC's total capital education budget was J\$1,507.25 million, 60.6 percent of which was financed by external sources and 39.4 percent by domestic resources. In recent years, the government has increased its dependence on external sources for financing capital expenditure on education. The external share in-

creased rapidly from 28.1 percent in 1993/94 to 60.5 percent in 1996/97, with a correspondingly sharp decline in the domestic share.

The IDB and the World Bank have been the two major contributors of external resources for capital expenditure on education. For example, of the total external fund for capital projects in education, the IDB's share was 39.8 percent in 1996/97 and 54.4 percent in 1997/98; the World Bank's share was 49.0 percent in 1996/97 and 32.0 percent in 1997/98. Since 1997, the British Department for International Development has taken an active role in financing education projects in Jamaica.

**Table 6-9. Distribution of Bilateral/Multilateral Projects in Education, Jamaica, 1993/94–1997/98**  
(Percent)

Subsector	1993/94	1994/95	1995/96	1996/97 <sup>a</sup>	1997/98 <sup>b</sup>	Average
Primary education	47.26	41.73	33.95	52.85	57.65	46.69
Secondary education	26.00	31.43	28.20	28.85	32.53	29.40
Teacher education and training	6.85	2.74	2.01	2.92	2.69	3.44
Other	19.89	24.10	35.84	15.38	7.13	20.47
Total	100.00	100.00	100.00	100.00	100.00	100.00

<sup>a</sup> Revised estimates.

<sup>b</sup> Estimates.

Source: Ministry of Finance and Planning, Government of Jamaica.



External resources consist of two types, loans and grants. Since 1994/95, the government has received external resources almost entirely in the form of loans. There was a sharp decline in the share of grants from 20.7 percent in 1993/94 to 5.8 percent in 1994/95; the share of grants has since then decreased to 0 percent. The declining share of grants and the increasing reliance on external sources result in more external debt due to investment in education.

### **Government Debt**

Over the years, the government has accumulated a large stock of public debt. In 1992, public debt totaled J\$103,619 million, which amounted to 1.42 times GDP (Planning Institute of Jamaica 1997, various years; Inter-American Development Bank 1995). Although total public debt as a percentage of GDP declined in 1992–96, the trend in debt burden has reversed in the last few years. It now stands at 144 percent of GDP.

External debt constitutes the majority of total public debt, although it decreased from 81.6 percent in 1992 to 58.6 percent in 1996, and the stock of external debt has declined in value since 1994 (Planning Institute of Jamaica 1997, various years; Inter-American Development Bank 1995). However, compared with other Latin American countries, Jamaica has a relatively high external debt burden. Using the ratio of external debt to GDP as a measure, Jamaica's debt burden is about 2.5 times the average for Latin American countries (Inter-American Development Bank 1995: 306).

Interest payments on public debt are a significant burden on the government's fiscal resources. Total interest payments amounted to J\$6,873 million in 1992/93 and J\$17,971 million in 1995/96 (Planning Institute of Jamaica 1997, 1996: 62). During 1992/93 to 1995/96, total interest payments averaged 41.3 percent of total government recurrent expenditure. In fact, during the first nine months of 1996/97,

the share rose to 43.8 percent. It reached an all-time high of 61.8 percent in 1999/2000. The interest payments constrain the government's ability to finance activities in education and other sectors.

### **Domestic and External Resources**

Table 6-10 provides estimates of domestic and external resources for education and training in 1995/96. Total spending on education and training amounted to J\$12,168.74 million, which was 46 percent larger than J\$8,318.05 million, the amount financed from the government's own resources. The government and households were the two major financing sources. External resources amounted to a small proportion of the total expenditure. However, because of lack of information, table 6-10 does not include two other potentially substantial sources of spending on education and training. The first is spending on training provided by employers that is not included in the training under the HEART Trust/NTA. The second is contributions by the community (including alumni) to education institutions for capital investment in education.

### **International Comparisons**

To put the structure of Jamaica's financing of education in international perspective, table 6-11 compares the financing characteristics of Jamaica with other countries, particularly those in Latin America. Because countries vary substantially in their national development contexts, the figures in this table are meant to indicate the relative state of affairs in education financing; they do not imply specific financing policies. The table shows that during most of the 1990s, Jamaica's fiscal effort in education was substantially lower than the average in Latin American countries, but its national effort was above the average national effort. The year 1997/98 was a high point for

**Table 6-10. Domestic and External Resources for Education and Training, Jamaica, 1995/96**

Source	Jamaica dollars	Percent
External (channeled through government)	304.50	2.50
<i>Domestic</i>		
Government (excluding external resources)	8,318.05	68.36
Household education expenditure	2,656.96	21.83
Employer-financed training <sup>a</sup>	845.00	6.94
Financial assistance from community <sup>b</sup>	44.23	0.36
Total from all sources	12,168.74	100.00

<sup>a</sup> Does not include employer spending on training provided to employees in the workplace.

<sup>b</sup> Does not include community contribution toward capital expenditure on education.

Source: Authors' estimates.

education in Jamaica in terms of fiscal and national effort.

With respect to the percentage distribution of public expenditure on education among subsectors, Jamaica is somewhat in the middle of the range for some Latin American countries and for countries in the Organisation for Economic Co-operation and Development. With increased allocation to primary education in 1997/98 (and a corresponding decrease in the share for tertiary education), Jamaica is at the high end of the range among these countries in terms of fiscal priority for primary education. In 1994/95 in Jamaica, per student public expenditure on higher education was 15.5 times that at the primary level. This ratio is much higher than those for some of the Latin American countries (such as Brazil, Mexico, and Colombia). As shown in table 6-11, this ratio varies widely among countries in different parts of the world. Developing countries generally spend 1 to 4 percent of household expenditure on education; at 2.9 percent, Jamaica is somewhat in the middle of this range. But Jamaica's spending level is actually lower than that of Guyana, a country in the same region with a much lower per capita

GDP. Finally, table 6-11 shows that Jamaica's external debt burden (external debt as a percentage of GDP) is almost three times the average for Latin American countries.

## Critical Issues

### Low Quality

Improving the quality of primary and secondary education is arguably the most important challenge facing education decisionmakers in Jamaica. As indicated by low educational achievement and other adverse factors, the majority of students in primary and secondary schools receive low-quality education. The problems of low quality begin early in primary education and are reinforced and magnified in secondary education. In an examination-oriented and highly stratified education system, a minority of (top-performing) students are selected and placed in the best institutions with bright prospects of moving up through the system. The system leaves the majority of students to attend the least-desirable institutions and then exit the system at an early age.

**Table 6-11. Education Financing, Jamaica and Selected Countries**

Financing characteristic	Jamaica	Other countries
Public education expenditure (percentage of government spending)	11.95 (1990/91–1998/99) 14.90 (1997/98)	Latin America: 16.0 (1980)
Public education expenditure (percentage of GDP)	5.28 (1990/91–1998/99) 7.6 (1997/98)	Latin America: 4.77 (1980)
Distribution of public education expenditure (percent)	37.6 for pre-primary and primary, 33.6 for secondary, and 21.6 for tertiary (1990/91–1996/97) 42.1 for pre-primary and primary, 32.6 for secondary, and 18.1 for tertiary (1997/98)	Mexico: 35.7 for pre-primary and primary, 40.7 for secondary, and 23.6 for tertiary (1989) Colombia: 42.0 for pre-primary and primary, 36.0 for secondary, and 22.0 for tertiary (1989) OECD countries: 39.3 for pre-primary and primary, 42.6 for secondary, and 25.7 for tertiary (1992)
Ratio of unit cost <sup>a</sup>	15.54 (1994/95)	Brazil: 6.9 (1989) Colombia: 5.0 (1989) Mexico: 5.7 (1989) OECD countries: 2.27 (1992) Pakistan: 13.7 (1989) India: 8.9 (1989) Senegal: 27.0 (1989) Sierra Leone: 65.3 (1989)
Household education expenditure (percentage of total household consumption)	2.9 (1995)	Guyana: 3.6 (1993)
External debt as a percentage of GDP	112 (1994)	Latin America: 39.5 (1994)

<sup>a</sup> Expenditure on higher education per student divided by expenditure on primary education per student.

Source: Inter-American Development Bank (1995); OECD (1995); Eicher (1995).

### Low Achievement

At the primary level until 1998, the Common Entrance Examination Eleven Plus (CEE 11+) was the selective examination that determined access to grade 7 in secondary high schools and comprehensive schools. In recent years, about 50,000 students sit for the examination annually, and only 15,000 of the top-performing participants (30 percent) are placed in these two types of secondary schools.

Although this examination provides an assessment of relative student performance, a study of educational achievement sponsored by MOEC shows that many students in primary schools fall behind their grade level in educational achievement, especially students enrolled in government schools (Government of Jamaica 1997). For example, table 6-12 presents the results of the Mico Diagnostic Reading Test on a sample of 2,185 primary students

**Table 6-12. Median-Level Performance on the Mico Diagnostic Reading Test, Jamaica, 1992**

Students' grade in school	Performance grade level on test	
	Primary and all-age schools	Preparatory schools
1	Pre-primary	Pre-primary
2	1	1
3	2	3-4
4	3-4	5
5	4-5	6
6	5	6-7

Source: Ministry of Education and Culture, Government of Jamaica.

from 50 schools, encompassing government and preparatory (private) schools as well as urban and rural schools. It shows the median level of performance of students in each of the six primary grades. The results indicate that for each of the six grades in government primary schools, the students' median level of performance on the reading test was below their respective grade level. By contrast, the median performance of students in grades 3-6 in preparatory schools was above the respective grade level. But students in private preparatory schools constitute less than 5 percent of primary enrollment. This test also shows that urban students performed better than rural students.

The lower achievement of students in government schools is paralleled by the lower passing rates of these students on CEE 11+. Table 6-13 shows that the passing rate of preparatory students averaged about 2.4 times that of students enrolled in government primary schools.

There are several selective and terminal examinations at the secondary level. The most public attention goes to the terminal examination administered by the CXC for grade-11 students. The majority of participants in this examination are from secondary high schools,

the most distinguished schools in secondary education in Jamaica. Grades 1 and 2 are proficiency levels that are considered satisfactory, and grade 3 is marginally proficient (as of 1998, another grade level was added to the grading system of the CXC so that grade 3 is now considered an acceptable level of proficiency).

Table 6-14 shows that of students from secondary high schools in 1996, 45 percent achieved proficient performance (for grades 1 and 2) in general-level English, and 31 percent were proficient in mathematics. Students from other types of secondary schools performed worse. In fact, poor performance in these two core subjects has persisted for a number of years. Female students have performed much better than male students in general English, while male students have performed somewhat better than female students in mathematics. The rates of proficient performance for the other examinations in secondary education are also low. According to information compiled by MOEC, the percentage of students attaining grades 1-3 on the CXC examination in 1999 was 41.2 percent in general English, 26.8 percent in mathematics, 51.5 percent in biology, 41.4 percent in chemistry, and 38.2 percent in physics (Government of Jamaica 1999).

**Table 6-13. Passing Rate on the Common Entrance Examination 11+ by School Type, Jamaica, 1992/93–1995/96**  
(Percent)

Year	Primary and all-age schools (government)	Preparatory schools
1992/93	22.0	54.0
1993/94	22.4	56.4
1994/95	24.3	58.4
1995/96	25.3	59.8

Source: Ministry of Education and Culture, Government of Jamaica.

### Deficiencies in Inputs and Processes

A number of recent studies have identified the deficiencies in educational inputs and processes that contribute to low educational achievement in Jamaica (MOEC and HIID 1997; Miller and Evans 1997; Government of Jamaica 1996e; Glewwe and others 1995). At the primary level, government schools have particularly acute deficiencies. The prominent deficiencies include the following:

- Deteriorating teacher quality is reflected in the percentage of untrained teachers, which increased from 6.6 percent in 1988/89 to 20.8 percent in 1998/99 (Government of Jamaica various years).
- There is an uneven distribution of teachers across schools such that in 1995/96, more than 13 percent of primary schools had a student-teacher ratio of 42 or higher. Jamaica's standard of 42 students to 1 teacher is among the highest in the Caribbean region (Government of Jamaica various years).
- Faced with pressure from the highly competitive CEE 11+, principals and teachers in many schools have concentrated their efforts on promising students, neglecting the education of the rest of the students (Miller and Evans 1997).
- Students have irregular school attendance, with lower attendance rates for rural students and male students (MOEC and HIID 1997).
- The low level of funding for government primary schools results in meager recurrent spending on nonpersonnel educational inputs and poor physical facilities and environment. This situation is not due to a low share of allocation for primary education within

**Table 6-14. Performance on the Caribbean Examination Council Examination by School Type, Jamaica, 1996**  
(Percentage of students scoring at proficiency grades 1–2 and 1–3)

Core subject	Secondary high		Technical high		Comprehensive high		New secondary	
	1–2	1–3	1–2	1–3	1–2	1–3	1–2	1–3
General English	45	85	17	64	15	57	8	39
Math	31	55	16	40	9	25	3	17

Source: Ministry of Education and Culture, Government of Jamaica.



MOEC's education budget, but to a relatively low share of the government budget devoted to education for a long period of time.

Other deficiencies that are often mentioned include the lack of training for school principals, the prevalence of teacher-centered pedagogy, too much regulation and control by the central ministry, and a curriculum in need of revision and updating.

While agreeing that there was a significant decline in the percentage of trained primary teachers, some local observers countered that this decline was due to the teacher education policy of international agencies that worked with the government during the 1980s and much of the 1990s. According to these observers, the agencies preferred in-service teacher training to pre-service teacher education. To satisfy a precondition for an education loan, the government closed down a teachers' college that produced 15–20 percent of primary school teachers at the time.

There are several prominent factors that contribute to the low achievement of secondary students. They include the following:

- Low-quality primary education does not prepare the majority of students adequately for secondary education.
- In a stratified secondary education system, more than 40 percent of the students are relegated to all-age schools and new secondary schools. These have deficiencies in many important aspects of the teaching-learning process, such as a high concentration of teachers with low qualifications, a high concentration of low-performing students, meager resources for instructional materials, and poor physical facilities. The curriculum for grades 7–9 in all-age schools is being upgraded (such schools are being converted to primary and junior high schools through the Reform of

Secondary Education project funded by the World Bank).

- In 1999/2000, among teachers in secondary high schools, 22 percent were untrained and only 31 percent were university graduates; the corresponding figures were 23 and 24 percent in technical high schools (Government of Jamaica various years). Teachers without adequate preparation in the subject matter often teach students in grades 10 and 11. Secondary schools also need more teachers in some subject areas, such as mathematics and science.
- Students have irregular school attendance. In 1995, the full attendance rate in secondary schools was around 80 percent (Planning Institute of Jamaica 1995: 23).

Before the introduction of cost sharing in secondary education in 1994, most of the secondary schools had very few resources to support necessary operating expenses. Similar to primary education, this situation is not due to a low share of allocations for secondary education within MOEC's education budget, but to a relatively low share of the government budget devoted to education for a long time. The collection of school fees since 1994 has significantly improved the financial situation for operational spending. However, such revenue will not provide relief for the poor physical facilities in new secondary schools.

The quality of teaching in primary and secondary schools in Jamaica is obviously affected by the quality of the teachers. According to a recent review by MOEC, the current practices in teacher training are deficient in a number of ways (Government of Jamaica 1996d). First, the present curriculum of teachers' colleges does not give sufficient time for students to gain adequate experience in pedagogy. The college faculty and the schools hosting the practicum do not provide enough support to the practicing teacher. Second,

graduates of teachers' colleges need more learning in subject matter that should be raised to the degree level for new recruits. Third, there should be an increased effort to provide the necessary training to the increasing number of untrained teachers in schools.

A master's degree is considered the basic educational qualification for instructional staff in post-secondary institutions. Except for the University of West Indies, the proportion of instructional staff with this basic qualification is quite low (Government of Jamaica 1996c).

### ***Disparities and Inequities***

The highly differentiated secondary school system is characterized by the existence of several types of secondary schools, with large variation in educational quality and in the opportunities for promotion up the education ladder. Secondary high schools are at the high end of the system, followed by technical high schools, comprehensive high schools, new secondary schools, primary and junior high schools, and all-age schools. Through a number of competitive examinations, high-performing students are channeled into secondary high schools, and low-performing students are sent to all-age schools.

Although the net enrollment ratio is 83 percent in the first secondary cycle, grades 7–9, it is only 46 percent in the second cycle, grades 10–11 (MOEC). Most of the students in all-age and primary and junior high schools leave the system after grade 9. Table 6-15 shows some of the educational disparities among the different types of secondary schools. The table does not capture the large differences in the quality and availability of physical facilities, but such differences are easily observable in school visits. The schools also vary significantly in their ability to raise additional resources from the community. They continue and exacerbate the educational disparity that begins at the pri-

mary level. In an effort to address this problem, MOEC has been reducing the different types of secondary schools since 1998.

In a historical study of high schools in Jamaica, Miller (1990) observes that before 1944, race and ethnic origin constituted a fundamental basis for social stratification. Whites and other minorities were more represented in high schools than the black majority. But since 1944, class has emerged as an important basis for stratification, and black students have been more represented in high schools than before. There is still some degree of racial segregation in high schools, in that schools owned by different religious denominations tend to serve different racial and ethnic groups.

Historically, there were also differences in high school attendance by gender. Before the 1940s, more boys than girls entered high schools; the reverse has been true since the 1950s. In addition, girls are more often enrolled in art subjects, and boys in science and technical/vocational subjects (Hamilton and Leo-Rhynie 1979–80). Although more girls have enrolled in science over time, they are often found in biology-related classes instead of the physical sciences.

Several types of educational inequality characterize the primary level. First, institutional inequality arises due to the differences between government primary schools and preparatory schools. Preparatory schools serve primarily families from the most advantaged backgrounds, while government primary schools serve families from all socioeconomic backgrounds. Compared with government-school students, students in preparatory schools have higher educational achievement and a much higher passing rate on the CEE 11+ (tables 6-12 and 6-13). Second, geographical inequality arises due to differences between urban (the Kingston metropolitan area and towns) and rural schools. Urban schools generally have better facilities and higher educa-

**Table 6-15. Disparities among Different Types of Secondary Schools, Jamaica, 1990s**

School type	Teachers with university degrees, 1995/96 (percent)	Government expenditure per student, 1993/94 (Jamaica dollars)	Cost-sharing revenue per student, 1996/97 (Jamaica dollars)	Student-teacher ratio, 1993/94	Passing rate on the CXC <sup>a</sup> , 1996 (percent)	
					General English	Math
Secondary high	30.1	11,274	4,661	18	45	31
Technical high	15.1	13,109	4,197	19	17	16
Comprehensive high	13.5	9,173	2,854	21	15	9
New secondary	11.7	9,871	2,457	18	8	3
All-age (grades 7–9)	6.9	4,701 <sup>b</sup>		32		

<sup>a</sup> The CXC is the Caribbean Examination Council examination.

<sup>b</sup> Average spending for grades 1–9.

Source: Ministry of Education and Culture, Government of Jamaica.

tional achievement than rural schools. Raising the quality of rural government primary schools should be a top priority of education policy.

Household and community participation in education, including financial contributions to schools, is desirable and should be encouraged. However, household and community contributions tend to exacerbate the disparities in education. Table 6-4 gives data for mean annual per capita total household education expenditure in 1995. It shows that urban households spent much more on education than rural households, and wealthier households spent much more than less-wealthy households. In table 6-16, the breakdown of total household education expenditure makes obvious the advantages of urban and wealthy households. Similarly, community contributions favor urban and wealthier households (table 6-6).

Besides being unequal, household educational spending is also inequitable. For example, in 1995, per capita household education expenditure was J\$399 for the lowest quintile consumption group and J\$2,237 for the highest quintile consumption group. Such expenditure amounted to 3.21 percent of household consumption for the bottom group and 2.85 percent

for the top group (computed from Planning Institute of Jamaica 1995). Thus, compared with the high-consumption group, the low-consumption group had a smaller expenditure and a heavier economic burden. Since children from wealthier households are overrepresented in the better education institutions, both government spending and private spending on education favor the wealthier households. To mitigate the disequalizing impact of household and community resources for education, government resources should be targeted more at the rural and lower-income households.

In light of the large disparities at lower levels of education, it is not surprising that the majority of students in tertiary education in Jamaica are from well-to-do backgrounds, especially from the top consumption quintile (table 6-17). In fact, table 6-17 shows that during 1989–92, tertiary students increasingly came from the wealthiest households.

Analysis of labor force data from 1994 shows that there is a relationship between educational attainment and occupation (table 6-18). Not surprisingly, more-educated persons are found in higher-status and high-paying occupations. For example, 33.2 percent of the top occu-

**Table 6-16. Mean Annual Household Expenditure on School-Related Items, Jamaica, 1995**  
(Jamaica dollars)

Household group	Tuition and fees	Extra lessons	Books	Other supplies
<i>Geographical area</i>				
Kingston metropolitan area	2,467	2,406	1,173	416
Other towns	1,932	1,730	960	345
Rural areas	1,603	1,170	822	394
<i>Consumption quintile</i>				
1 (low)	909	1,660	525	416
2	1,369	1,430	718	402
3	1,748	1,290	831	419
4	1,915	2,432	1,326	534
5 (high)	4,108	1,877	1,607	534
Total	1,971	1,768	961	390

Source: Planning Institute of Jamaica; Statistical Institute of Jamaica (1997b).

pational group (professionals, senior government officials, and technical personnel) had at least post-secondary education, while only 1.1 percent of those engaged in elementary occupations had that level of educational attainment. Among the seven broad categories of occupations, workers engaged in agriculture and fishery had the lowest educational attainment.

Compared with other developing countries, Jamaica historically has had a relatively high rate of female participation in the labor

force, in both the formal and informal sectors. Gordon's (1996) study shows that the female share of the labor force increased from 36 percent in 1943 to 45 percent in 1984. The expansion of female employment has contributed to improvement in life chances and social mobility for females in Jamaica. However, the study also finds that occupational segregation by gender has not changed much over the past four decades, and that men still enjoy a dominant position in the workplace.

**Table 6-17. Distribution of Tertiary Students by Consumption Quintile, Jamaica, 1989 and 1992**  
(Percent)

Consumption quintile	1989	1992
1 (low)	4.6	6.1
2	10.5	6.1
3	19.8	14.3
4	24.4	22.5
5 (high)	40.7	51.0

Source: Government of Jamaica (1996c).

**Table 6-18. Educational Attainment of Employed Labor Force by Occupation, Jamaica, 1994**  
(Percent)

Labor force sector	Primary	Secondary	Upper-secondary	Post-secondary
Professionals, senior officials, technical personnel	21.8	11.2	33.6	33.2
Clerks	11.6	14.8	61.1	12.5
Service and sales workers	36.0	19.2	40.7	4.0
Workers in agriculture and fishery	77.4	11.1	10.9	0.6
Craft and related trade workers	43.3	19.4	34.1	3.3
Machine operators and assemblers	38.9	19.7	39.4	2.0
Elementary occupations	59.2	18.9	20.8	1.1

Source: Authors' calculations based on the 1994 labor force survey.

## Low Efficiency

### Internal Efficiency

Deficiencies in internal efficiency imply that available education resources are not fully utilized to produce the maximum education output possible, given the prevailing education technology. Lower internal efficiency in education leads to lower educational output/quality. Irregular attendance by students is a common problem across education levels. Although the attendance rate increased from 70 percent in 1990/91 to 76 percent in 1998, irregular student attendance adversely affects teaching effectiveness and education efficiency. Given the nonattendance rates of students, the available education resources (such as teachers, instructional materials, and school facilities) are not utilized for teaching and learning about 20–30 percent of the time in the school year.

Although there are no officially published rates of nonattendance for teachers, discussions with school principals and ministry officials indicate that teacher nonattendance is also a problem in some schools. The government has a generous policy for teacher and

principal leave. This policy results in serious financial inefficiency and recurrent cost overruns in the system. Rodgers-Jenkinson and Chapman (1990) find that the level of job satisfaction of primary school teachers in Jamaica is affected by a school's status in the local community and by parents' interest in the activities of the school. Increasing teachers' job satisfaction may be a way to reduce nonattendance and attrition by teachers.

Some education institutions in Jamaica have very high per student education expenditure, primarily because of their small size and low student-teacher ratio. Post-secondary institutions, especially teachers' colleges, are a prominent example. The relative unit cost of post-secondary education in Jamaica was 15.54 in 1994/95; this ratio was two to three times that of several Latin American countries, which ranged between 5.0 and 6.9 (table 6-11). For example, teachers' colleges in Jamaica, which offer a three-year diploma program to grade-11 graduates plus other shorter programs, on average have only 537 students (MOEC). In 1996/97, the average per student expenditure of teachers' colleges was 12.4 times that of primary education (table 6-19). Although boarding



**Table 6-19. Unit Cost of Teachers' Colleges, Jamaica, 1996/97**

College	Enrollment	Expenditure per student (Jamaica dollars)	Relative unit cost <sup>a</sup>
Mico	1,080	98,857	12.2
Shortwood	620	97,332	12.0
St. Joseph	330	102,711	12.7
Church	378	107,619	13.3
Sam Sharp	430	92,293	11.4
Bethlehem	382	108,347	13.4
Total	3,220	100,236	12.4

<sup>a</sup> Per student cost of teacher training college divided by per student cost of primary education.

Source: Ministry of Education and Culture, Government of Jamaica.

expenses increase the unit cost of these institutions, their small size is the main factor for the high relative cost per student.

The vocational/agricultural schools at the secondary level provide another example of high per student expenditure. In 1995/96, there were five vocational/agricultural schools with a total enrollment of only 862 students. In 1994/95, the average per student expenditure was J\$29,562 for these schools (MOEC). The unit cost was 2.6 times the average for all secondary schools (J\$11,407) and 6.1 times the average for all government schools at the primary level (J\$4,844).

A MOEC review indicates that there is significant fragmentation and duplication of programs in some subsectors of the education and training system (Government of Jamaica 1996c). For example, TVET lacks articulation among programs at various levels, resulting in duplication and wastage of resources within this subsector. A recent task force on institutional strengthening of community colleges concludes that in order to reduce wastage in the community college system, the roles and functions of community colleges must be clarified (Government of Jamaica 1996c). Currently, because of a lack of clear roles and functions, there is duplication in the programs offered by community colleges, secondary schools, and the HEART Trust/NTA. In addition, informal programs of-

fered by a multiplicity of private training institutions are fragmented because of lack of coordination (Government of Jamaica 1996a).

Teachers' colleges also report duplication of small programs. There is a need to rationalize the current programs in teachers' colleges in a variety of ways, such as terminating programs, expanding and upgrading programs, introducing new programs, promoting collaboration among colleges, and even merging some colleges. Finally, a significant percentage of graduates of teachers' colleges do not enter the teaching profession on graduation. For example, data from 1992/93 indicate that only half of the graduates who completed teacher training in secondary education that year entered the teaching profession (Government of Jamaica 1996a).

With the introduction of a cost-sharing scheme in 1994, secondary schools gained a large increase in revenue to support operating expenses. The administrative staff in secondary schools need training on how to effectively manage the revenue so as to improve education quality. The school system needs to institute proper procedures to promote accountability in the utilization of this revenue. The education management information systems currently in place do not support good and reliable management practices. The lack

**Table 6-20. Employer Ratings of Work Preparedness of Secondary Graduates, Jamaica**

School type	Poor or moderate	High
Secondary high school	39	61
Technical high school	38	62
Comprehensive high school	51	49
New secondary school	62	38
Vocational/agricultural school	54	46

Source: Brown (1994: table 82).

of timely, accurate, and relevant information is a serious impediment to sound planning and financial management in the education sector. Too often, senior managers have to make decisions based on obsolete or no information.

### *External Efficiency*

A number of studies have consistently found that employers are concerned about the quality of graduates from secondary education, particularly with respect to the lack of basic education in English, mathematics, and science, and the absence of a proper work ethic (Government of Jamaica 1997; Brown 1994). Among the different types of secondary schools, employers gave graduates from new secondary schools and vocational schools the worst ratings on job preparedness (table 6-20). Honig's (1996) study of education and self-employment finds that junior secondary schooling does not bring any positive returns to self-employed individuals.

Because of a lack of flexibility and adaptability, the TVET subsector has not been responsive to the changing skill demands of the economy. Although the subsector falls short of meeting the needs of some expanding industries, programs for employment in slow-growing industries still dominate the public training programs. There is a need to make the training system more demand-driven and

more responsive. And, since training is part of the government's effort to reduce poverty, TVET should target training at the poor and especially females (particularly because the female unemployment rate is about twice that of males).

About half of the grade-9 students are not admitted to grade 10 primarily because of a lack of capacity in secondary schools. Many of these school leavers are unemployed because of the lack of job opportunities in a stagnant economy. For example, in 1995, the unemployment rate averaged 46 percent for the labor force aged 14–19 years (Statistical Institute of Jamaica 1996: 33). However, unemployed youths aged 15–17 years cannot attend the training programs organized by the HEART Trust/NTA because such programs have an age requirement of at least 17 years. It is thus not surprising that some of these youths engage in antisocial behavior, contributing to social violence, which is a serious problem in urban Jamaica (World Bank 1996b). Education and training programs should be made available to these youths to improve their skills and help keep them off the street.

Currently, adults in the labor force do not have a second-chance opportunity to acquire a general secondary education certificate. The acquisition of such a certificate would improve the skill of the labor force, provide the needed qualification for further education for some adults,

and enhance the career opportunities of adults that have such a qualification. Adults should be encouraged to acquire such a certificate through a variety of secondary education equivalence programs (for example, evening classes in secondary schools, distance education, and programs provided by the private sector). The necessary certifying requirements should be under the control and oversight of a credible accreditation agency.

## Policies and Financing Strategies

There are three categories of strategies for financing education in Jamaica: improving quality/efficiency, mobilizing additional resources, and targeting education resources and programs at disadvantaged populations. Efficiency improvement is aimed at making sure that existing resources for education are used more effectively and that additional resources for education will not be wasted. In the education sector, efficiency may be raised by improving education quality (without a proportionate increase in cost), by greater utilization of existing resources, and by promoting parent/community participation in education.

Additional resources for education can be mobilized from government and non-governmental sources. Three main arguments support the idea of significantly increasing government spending on education. First, it would help make up for the “deficit” in education stock due to relatively low government spending on education. Second, it would help meet the increased demand for human capital and thus enhance Jamaica’s competitive position in the global economy. Third, it would ensure that quality basic education is accessible to children from all backgrounds. This strategy would also require resources (both financial and nonfinancial ones) from parents and the community.

Efficiency improvement and resource mobilization will not necessarily make quality basic education more accessible to disadvantaged populations (such as the poor, especially the rural poor). The government’s education interventions would have to explicitly target the poor (Tsang 1994).

Within each of these three categories of financing strategies, a variety of specific options can be considered. This section identifies specific options for the entire education sector and for each subsector (Tsang 1998a).

### *Options for the Entire Sector*

Improving the quality of basic education, especially at the primary level, should be a key concern of MOEC and the regional education offices. Poor quality at the primary level has continuous negative effects on learning and educational efficiency up the educational ladder. Good quality primary education for all is fundamental for achieving quality basic education for all. Additional investment to boost quality in basic education can be justified on at least three grounds. First, it enhances the graduates’ capacity for effective participation in the national development process. Second, it reduces the costs incurred by employers in providing remedial training in basic skills. Third, it reduces wastage in basic education and thus the net cost of quality improvement.

There are several options for improving efficiency in more than one subsector. First, promoting the school-community/parent relationship should help increase student attendance and reduce teacher absenteeism in primary and secondary schools. Second, training and the use of technology will improve educational management at the regional level. Third, program consolidation and institutional mergers will increase cost-effectiveness. More generally, the education system should continue to implement the decentralization it

began a year ago and enhance decisionmaking capacity at the regional and school levels.

### **Resource Mobilization**

To meet the financial need for quality basic education for all, the government should raise its fiscal effort for education from the relatively low level of 11.3 percent of government spending to 15–16 percent (about average for Latin American countries), and maintain that level. And it should increase the total share for primary and secondary education from the average of 68 percent in 1990/91–1996/97 to 73–74 percent (MOEC). In 1997/98, the government already made a substantial jump in fiscal effort to 14.9 percent, and in the share for primary and secondary education to 71.5 percent (MOEC). However, much of this increase was used to raise teachers' salaries.

In the coming years, the government should make a significant proportion of its additional resources for education available to finance other important objectives. For example, it could implement further improvement in the cost-sharing scheme in secondary education by setting appropriate minimum and maximum fee levels and by reducing the disparity in school fees that different types of secondary schools collect. It should avoid cost sharing at the primary level. The government, the community, and the private sector should work together to support the increased use of educational technology in schools.

### **Targeting**

Quality basic education for all is not possible without focusing on disadvantaged populations. The school system should use additional government resources to target education programs and services at such populations. Such programs and services would improve the quality of primary education for poor and rural children; improve the quality and access to

secondary education for children currently enrolled in secondary grades in all-age schools, primary and junior secondary schools, and new secondary schools; and expand vocational-training opportunities for the poor, women, and youths. With decreased retention of males at all levels of the education system, more attention should be given to promoting the education attainment of male students.

### **Options for Primary Education**

Quality improvement in primary education contributes to increased educational efficiency at this level and beyond. Options include: (1) reducing student and teacher absenteeism; (2) improving student assessment and implementing an updated curriculum; (3) promoting student-centered pedagogy; (4) providing the necessary training to untrained teachers in primary schools; (5) increasing spending on instructional materials; and (6) improving the physical environment for learning in school. In addition, the school system should improve training for preschool teachers so that children will be more ready for primary education at age 6.

MOEC will have to take the lead in pushing for simultaneous improvements in education inputs (such as teacher quality, instructional materials, and physical environment and facilities) and processes (such as student assessment, curriculum reform, and pedagogy). However, the key stakeholders at the school-site level (principals, teachers, and parents) must take ownership of a schoolwide effort to improve teaching and learning at that level. Previous experience in education reform has shown that piecemeal interventions pushed by education officials far away from the school site have little or no impact on practices in the classroom. Successful attempts often require holistic changes in school governance (including the school-parent/community relationship), instruction, and curriculum, undertaken

at the same time and at the school level. Reforms should make schools the center of quality improvement.

### **Resource Mobilization**

The share of primary education in MOEC's education budget should reflect the importance of quality improvement in primary education. The primary share should stay at the level of 38–39 percent.

### **Targeting**

Many rural and urban schools in low-income neighborhoods face adverse conditions both inside and outside schools. The school system should give these schools priority in the overall effort to improve education quality at the primary level. These schools should adopt a schoolwide, school-level, holistic approach to quality improvement.

### **Options for Secondary Education**

Options for improving quality and efficiency at the secondary level include the following:

- The school system should reduce student absenteeism.
- It should continue the curriculum reform of secondary education undertaken by the ROSE project. Secondary education should emphasize general education in a number of core subjects.
- The system should provide training to untrained teachers in secondary schools.
- It should increase the number of teachers with university education (first for teachers in grades 10 and 11, then for teachers in lower-secondary grades), particularly in mathematics and science.
- The school system should provide training to school principals and institute proce-

dures for ensuring financial accountability at the school level.

- It should unify and restructure secondary education in a phased manner (eventually phasing out lower-secondary classes in all-age schools and primary and junior secondary schools, making secondary schools five years in length and upgrading them to high schools).
- The system should ensure that all secondary schools have a minimum level of spending for operating expenses.

### **Resource Mobilization**

The cost-sharing scheme is a significant source of school revenue and is important for supporting necessary operating expenses at the school level. The school system should refine this scheme, defining the appropriate level of school fees, avoiding excessive charges (especially charges unrelated to operating spending) made by some schools, ensuring that all secondary schools meet a minimum standard of per student operating spending, and reducing excessive disparities in per student operating expenditure (nonpersonnel recurrent spending) among schools.

Within its budget for education, MOEC should increase the share for secondary education to 35–36 percent, with the increase supporting expansion of capacity. The school system should encourage the development of the private sector in the delivery of general secondary education equivalence programs for youths and adults.

### **Targeting**

The effort to unify and restructure secondary education is aimed at promoting overall learning and reducing inequality in access to knowledge at the secondary level. This effort focuses on secondary students in new secondary schools, all-age schools, and primary and jun-



ior secondary schools. The school system could expand and upgrade new secondary schools (to high schools) to accommodate additional secondary enrollment. It could gradually phase out secondary enrollment in all-age schools and primary and junior secondary schools.

### ***Options for Tertiary Education***

In the tertiary subsector, improving efficiency in the utilization of resources, particularly in teachers' colleges and community colleges, is the most important financing strategy at this point in time. Teachers' colleges are small and have low enrollments in many programs, and thus have relatively high unit costs. The school system should rationalize the programs offered across teachers' colleges, merging some of the programs and some of the colleges.

Cost-effectiveness is especially relevant for teachers' colleges that offer degree programs. Currently, there are duplications in programs and in functions among community colleges, secondary schools, and the HEART Trust/NTA. The school system should clarify the mission of community college programs, which should focus on post-secondary programs at the associate degree level. The system should upgrade the quality of these colleges so they will be able to offer credible programs. In addition, it should rationalize the programs offered across these colleges. In light of financial constraints, the quality upgrading has to be undertaken in a phased manner across programs and colleges.

Community colleges should serve the skills demands of the local business community; their programs should be flexible and responsive to changing local needs. At the same time, community colleges could provide a cost-effective option for meeting the increased demand for post-secondary education due to the expected expansion of secondary education. However, to promote internal efficiency,

it is necessary to maintain and even reduce the number of community colleges.

### ***Resource Mobilization***

The school system should develop a diversified financing base for community colleges. In addition to receiving government allocations and charging fees, community colleges could explore income-generating activities and strengthen linkages with local businesses.

### ***Targeting***

As part of the effort to improve the quality of education in low-income urban neighborhoods and rural areas, the school system should place a high priority on improving the quality of teachers in these areas. Currently, students from low-income and rural backgrounds are underrepresented in tertiary institutions in Jamaica. To improve equity in access to tertiary education, the government should provide financial assistance, including a loan scheme, to increase the participation of students from poor and rural backgrounds (World Bank 1996a). Such assistance should cover not only the cost of tuition, but also the cost of boarding accommodations.

### ***Options for Technical and Vocational Education and Training***

The school system should strengthen the delivery of TVET through various interventions. It should introduce and strengthen the accreditation procedure, develop modular programs within a carefully reviewed and approved curriculum, upgrade the qualifications of instructors, restructure programs to provide more workshop/laboratory time, and increase the use of educational technology in instruction. The system could strengthen linkages between TVET and the work world by involving business

and industry in updating and revising the curriculum, expanding in-plant training opportunities, and increasing the involvement of industry personnel in the delivery of training. It should also improve the responsiveness of program offerings to changing labor market needs (Middleton, Ziderman, and Van Adams 1993).

### **Resource Mobilization**

The school system should maintain and strengthen existing financing sources for TVET. It should implement cost sharing in TVET and encourage the development of the private sector in the delivery of training.

### **Targeting**

The government should provide financial assistance to needy students. The school system should expand training opportunities for the poor and the unemployed (especially females) and explore the extension of programs offered by the HEART Trust/NTA to individuals aged 15–17 years.

### **Summary of Key Recommendations**

1. The government should increase education's share in its total budget to 15–16 percent, maintain that level, and exercise appropriate constraint over the growth of the cost of teachers.
2. Within its budget for education, MOEC should adjust the intrasector shares to 38–39 percent for primary education, 34–35 percent for secondary education, and 19–20 percent for tertiary education.
3. The education system should respond to the current and emergent socioeconomic challenges by achieving quality basic education for all in a phased manner. Basic education is defined as education at the grade-11 level or its equivalent. This will require improving the quality of primary education, with attention focused particularly on children in low-income urban neighborhoods and rural areas. The system should adopt a holistic, schoolwide, school-site approach to quality improvement.
4. The school system should expand access to secondary education to students from all backgrounds in a phased manner. It should provide a five-year program that emphasizes core general education subjects. It should give particular attention to students currently enrolled in secondary grades in all-age schools, primary and junior secondary schools, and new secondary schools. Over a period of time, it should unify and restructure secondary education by eliminating all-age schools and primary and junior secondary schools, and by upgrading new secondary schools to secondary high schools.
5. The school system should refine the cost-sharing scheme at the secondary level to ensure that all secondary schools achieve a minimum level of spending on essential operating inputs, and to eliminate excessive disparities in operational spending among such schools.
6. The school system should provide education and training opportunities to out-of-school youths aged 15–17 years. It should develop alternative programs for youths and adults to achieve the equivalence of general secondary education, and it should involve the private sector in the delivery of such programs. It should also create incentives for out-of-school youths and adults to enroll in these programs, and it should provide financial assistance to needy learners.
7. The school system should increase the internal efficiency of teachers' colleges by rationalizing programs, upgrading the instructional staff, and merging some programs and some institutions. It should

expand degree programs for the preparation of secondary teachers and provide necessary training to untrained teachers in primary and secondary schools.

8. The school system should clarify the mission of community colleges to focus on post-secondary programs at the associate degree level. It should reduce duplications in existing programs and upgrade their quality. Without increasing the number of community colleges, it should gradually increase enrollment in both full-time and part-time programs (as the primary strategy for meeting the increased economic demand for higher-skilled employees and the increased social demand for post-secondary education over time). Community college programs should be flexible and responsive to changing socioeconomic needs. The school system should diversify the sources of funding, including the development of income-generating activities and the strengthening of linkages with the production sector.
9. The school system should strengthen the delivery of programs within the technical-vocational education and training system. It should strengthen the linkages between TVET and the production sector and increase the flexibility and responsiveness of TVET programs to changing demands for skills. The system should develop the private sector in the delivery of programs and explore the extension of programs offered by the HEART Trust/NTA to out-of-school youths aged 15–17 years.
10. MOEC should strengthen its involvement in pre-school education, particularly in the training of pre-school teachers and the provision of technical assistance to schools in designing an appropriate pre-school curriculum.
11. As part of the overall process of decentralization, the school system should

strengthen educational management at the regional level and expand training in school management. It should strengthen the use of technology in education and school management.

12. The school system should work to strengthen parent and community involvement in education. It should enlist the help of parents in combating student and teacher absenteeism. It should continue and refine the cost-sharing scheme at the post-primary level and provide financial assistance to needy students. And it should strengthen its efforts to mobilize resources from parents, the local community, alumni, the private sector, and overseas connections to support the capital needs of education institutions, especially at the post-primary level.
13. The school system should strengthen the role of computer literacy in the basic education curriculum. It should promote a partnership between the government, the community, and the private sector to support the increased use of education technology in schools.

## **Jamaica's Education Sector Strategy and the Role of Donors**

The government of Jamaica has already made concrete plans and taken action to address some of the issues in the education sector mentioned in this chapter. In 1998, MOEC was one of three government ministries to complete a Strategic Performance Review. The Review, which was undertaken in association with Jamaica's Public Sector Modernization Program, was conducted with extensive stakeholder participation and the technical assistance of the Department for International Development. The Review highlights critical constraints the education system needs to

overcome to achieve sustained performance improvements. It also presents an action plan, which shows how the system will achieve the strategic objectives and minimum targets identified for the sector.

The Review advocates the separation of strategic and operational functions; the provision of new instruments for education management and planning; the adoption of a performance management culture rather than a major restructuring; and the strengthening of MOEC's capacity to deliver sound policy. In this respect, the Review recommends amendments to existing legislation that, when combined with new patterns of resource allocation, could yield improvements in equity, efficiency, and effectiveness. The Cabinet of the Prime Minister's Office has approved the recommendations of the Strategic Performance Review and has established a high-level, interministerial Performance Management Team to oversee its execution. However, successful implementation of the recommendations will require additional external technical and financial assistance.

To ensure the efficient use of available resources in a context where several donors are involved, MOEC has established an intrasector working group. The working group, which is chaired by the Minister of Education, includes other government policymakers as well as representatives from international organizations, multilateral banks, and bilateral donors. The objective of the working group is to facilitate program coordination and promote sectorwide planning on a long-term basis in support of government efforts to strengthen corporate and financial strategies in the education sector.

The IDB has collaborated closely with the government in the education sector. One of the objectives of the IDB's country strategy for Jamaica is improved social sector performance, including improved access, equity, and efficiency (Inter-American Development Bank 1998b). This strategy is consistent with that of

the government's National Industrial Policy, the Medium-Term Policy Framework, and the Public Sector Investment Programs, 1996/97–1999/00.

In 1970, the IDB funded the first of two loans to establish the country's Student Loan Fund (1970, 1976). This initial investment was followed by three successive loans for the improvement of primary education. The first Primary Education Improvement Project (1983) contributed to the objective of improving access through a large school-building program. The second Primary Education Improvement Project (1992), while prioritizing school infrastructure, moved the system toward sector reform through the revision of curriculum, the introduction of a national assessment system, and the subsequent elimination of the Common Entrance Examination. Given these considerable achievements, the government has now turned its focus to improved sector performance. Consistent with the priorities expressed in MOEC's education policy framework and the Strategic Performance Review in 2000, the IDB approved a third operation, the Primary Education Support Project, to introduce cost-effective actions and policies to improve quality, equity, and efficiency in primary education delivery. Much of this project addresses the key issues affecting primary education discussed earlier in this chapter.

The Primary Education Support Project aims to bring about widespread use of the new primary education curriculum and assessment standards, and to reform the way that teaching and learning proceed. New management practices and systems at the central, regional, and school levels will result in improved sector efficiency, equity, and performance. The following efforts are central to these changes: (1) achievement of major improvements in early literacy and numeracy, particularly among children in poor urban and rural communities; (2) increase in efficiency through the rationalization of

teacher education, and the strengthening of management capacity at all levels; and (3) enhanced equity in the delivery of education services to children from lower socioeconomic backgrounds, through targeted interventions in literacy, numeracy, attendance, and civil works.

One of the main elements driving the design of the project has been the need to ensure that all the proposed actions contribute to improved equity and performance throughout the system. In infrastructure, for instance, all of the proposed investments are targeted to poor areas. The incremental resources for maintenance will address the most pressing needs in terms of repairs and equipment replacement, which tend to be much more serious in rural and depressed urban areas. With respect to quality improvements, all primary students and their teachers will benefit from the effective implementation of the new curriculum, the provision of relevant teaching and learning resources, and the use of continuous assessment for improved instruction. In addition, 80 of the most disadvantaged schools will be targeted for a special literacy intervention program aimed at improving learning outcomes for children up to grade 4 in these schools.

MOEC aims to gradually reduce the proportion of uncertified teachers in the system, most of whom are concentrated in poor urban and rural areas, from the current 20 percent to less than 5 percent by 2005/06. In addition, MOEC will reintroduce incentives to attract qualified teachers to disadvantaged schools. These reforms should contribute significantly to achieving a more equitable allocation of human and financial resources at the primary level.

On the institutional side, the establishment of school districts will allow for the redeployment of teachers and a more equitable distribution of resources among schools. Finally, the proposed interventions in school attendance are expected to contribute to the alleviation of a serious problem currently af-

fecting the poorest children, especially boys, in the system. Performance indicators to measure social equity enhancement are included in the Monitoring and Evaluation Plan.

Increased efficiency, resulting from improved financial and human resources management and other actions contained in the project, is critical over the next several years in order to implement and sustain new policies for improved quality and equity. The school district pilot will enable the redeployment of teachers in response to changes in enrollment. Properly implemented automation of the personnel, financial management, and infrastructure databases will result in better outcomes at an estimated annual savings of about US\$1.7 million. The management training programs will develop an in-house capacity to manage resources more effectively, thereby creating better value for dollars spent. Improved procurement practices will, in principle, produce estimated annual savings of US\$1.0 million. Additional savings will be generated by introducing efficiency measures in the budget allocation process, and through the rationalization of teacher education. Finally, the proposed reallocation of US\$2.1 million of the US\$3.5 million currently spent on teachers' leave each year would free up valuable resources over the short term, just as a more proactive maintenance policy would contribute to savings over the long term.

The project is expected to generate cost savings that will primarily be reinvested in policy initiatives. These initiatives include the certification of pretrained teachers in economically depressed zones; the maintenance of buildings, with direct benefits to schools that serve students from low-income families; and strengthened school management at the district and regional levels. The program for rationalizing teachers' colleges will produce savings that could be used to expand community-based professional development activities accessible to the teaching force in rural and remote areas.



Cost savings will also help to reinstitute incentives that attract qualified teachers to teach in schools located in remote and disadvantaged areas.

Equity can be improved by developing new criteria and methodologies for the distribution of resources among existing schools, and by improving coordination among all levels of the education system. To ensure the expected results, the project was designed within the context of a comprehensive, sectorwide strategy that takes into account institutional reforms and policy actions.

Within the context of education and training, the IDB has financed a US\$1.0 million grant to the Jamaica Computer Society Education Foundation. This grant will introduce computer-assisted instruction in 20 rural primary schools; provide US\$324,000 to establish a research database to profile the developmental status of Jamaican children entering primary school; provide US\$10 million under the Jamaican Social Investment Fund for poverty-targeted community development, including school rehabilitation; and finance a technical cooperation grant for US\$750,000 to conduct the technical studies required for the design and execution of this operation.

An important lesson from the IDB's regionwide experience is that investments should be targeted within a comprehensive, sectorwide strategy in order to sustain expected outcomes. The institutional and policy frameworks should be points of reference for monitoring and evaluation. Otherwise, maintenance expenditures in the school system may not be associated with investments in infrastructure, and the recruitment of an enlarged number of unqualified teachers could undermine support for new curriculum and assessment standards. The conceptualization of the Primary Education

Support Project is part of a sectorwide approach that prioritizes equity and efficiency in budget allocations and commits the government to have the required levels of quality in the teaching force.

In addition to the IDB, other donors are actively involved in working with the government to improve the education sector. At the primary level, USAID is providing US\$13.6 million in grant funds through the New Horizons Project (1998–2004) to develop strategies to increase literacy and numeracy in 72 of the worst-performing rural primary schools, and US\$500,000 to reform the core subject curriculum in teachers' colleges.

Under the Commonwealth Debt Initiative, the Department for International Development of the United Kingdom is providing approximately £7.35 million in debt relief to improve the performance of 48 remote, rural schools through an integrated package of teacher training, teaching aids, and school rehabilitation. The Department committed additional Commonwealth Debt Initiative funds of £4.75 million in 1999/00 to fund Stage I of a new All Age School Project. This project will develop in-service training for uncertified teachers, and will be piloted in 48 rural schools, expanding to an additional set of urban schools at a subsequent stage.

The World Bank is supporting a US\$40.7 million program (1993–2000) to reform lower-secondary education and to improve infrastructure in 54 secondary schools. It is also sponsoring a US\$500,000 grant to assess the costs and benefits of computer-assisted instruction at the secondary and tertiary levels. The Japanese International Cooperation Agency is contributing US\$4.73 million to upgrade technical and vocational education and training in 14 technical high schools.



## **Chapter Seven**

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# **Trinidad and Tobago**

The national economy of Trinidad and Tobago has been improving and moving in new directions. Despite the difficulties that tend to arise from the cyclical behavior of oil and gas prices, the country's medium-term economic outlook remains bright. Growth, investment, and strong balance-of-payments prospects characterize the economy, and the government has stepped up its efforts to maintain macroeconomic stability, reduce unemployment levels, and promote greater economic diversification.

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The government cut the ratio of public sector external debt to gross domestic product (GDP) in half, from 43 percent in 1992 to about 21 percent in 1999, while domestic debt levels have remained relatively stable at slightly more than 20 percent of GDP (Inter-American Development Bank data). As a result, the external public debt service ratio, at only 8 percent of exports of goods and nonfactor services in 1999, represented only one-quarter of its 1993 relative level.

Structural transformations in the energy sector over the past decade are paying off in terms of greater stability and diversification. Trinidad's oil fields have matured, resulting in a gradual decline in crude oil production. The government has responded with policies to diversify the economy away from oil production by encouraging foreign investment in other promising activities related to the energy sector, such as the petrochemical and natural gas subsectors.

In the medium and long term, as the importance of the petroleum sector continues to decline and the service and manufacturing sectors expand, it will become increasingly important for Trinidad and Tobago to further develop its human resource base. It will also have to continue its efforts to improve the regulatory environment and to further liberalize the economy, particularly in the key telecommunications sector, currently dominated by cable and wireless, as in much of the Caribbean.

Continued economic diversification will demand a greater emphasis on increasing the supply of managerial, professional, and tech-

nical workers, where the labor market is already showing some signs of tightness. The unemployment rate has fallen from more than 20 percent of the labor force a decade ago to about 13 percent in 1999 (Inter-American Development Bank data). Developing the new labor force will require an education system that, rather than acting as a "holding bay" for a large proportion of students currently enrolled, provides young people with the basic skills that are essential to confront the demands and needs of a dynamic and increasingly internationally integrated economy. Developing a labor force with the skills and competencies required for the future of the economy will require ongoing reforms to improve the quality and equity of the country's education system at all levels.

In addition to economic considerations, the government envisions a society with social equity and political participation by all citizens. Human development, particularly through a system of efficient and equitable education and training, is a core element of the strategy for broad-based national development.

## **Education and Society in Historical Perspective**

Initially, Arawak and Carib Indians inhabited the islands of Trinidad and Tobago (Government of Trinidad and Tobago 1995). After the arrival of Christopher Columbus in 1498, Trinidad soon became a Spanish colony. Britain captured Trinidad from Spain in 1797, and the island became a British colony in



1802. The Dutch, French, and British successively ruled Tobago during the seventeenth and eighteenth centuries. Like other islands in the West Indies, slavery was abolished in 1833. Indentured Indians arrived on Trinidad and Tobago in 1845. In 1899, it became a joint British Crown Colony. The colony was granted self-governance in 1956 and became an independent country in 1962. Today, the country has about 1.3 million people (data from the Central Statistical Office of the Government of Trinidad and Tobago). About 40 percent of the population is of African descent, 40 percent of East Indian decent, and the rest of mixed ethnicity (table 1-1).

In many ways, the history of education in Trinidad and Tobago is similar to that in other English-speaking countries in the Caribbean, such as Jamaica. The development of education was closely tied to colonial rule, and the British strongly influenced the education system. Although the colonial government increased its role in the financing of education after the Act of Emancipation, religious groups have been actively involved as providers of primary and secondary education throughout much of the history of the country. A year before national independence, the government and the various religious bodies negotiated the Concordat Agreement by which the denominational boards were assured ownership and control of the denominational schools. These schools also became government-assisted schools because the government paid for teachers' salaries and supported part of the capital costs of the schools (Jules 1994).

Government schools were established in both urban and rural areas to provide access for children previously not covered by the denominational schools. Thus, government schools were often associated with children from less-advantaged backgrounds. A small number of private schools also appeared and catered primarily to children from well-to-do

families. In 1968, the Parliament adopted the first major education plan for the country, which proposed expansion targets for various levels of education (Government of Trinidad and Tobago 1974).

Over time, the government made steady gains in expanding access to schooling for children from various backgrounds. For example, the proportion of school-age children in primary schools rose from 51 percent in 1901 to 64 percent in 1931, 92 percent in 1992, and 96.4 percent in 1995 (Furlonge 1995). During 1968–83, secondary education experienced rapid growth; the secondary enrollment rate increased from 24 percent in 1970 to 83 percent by the late 1980s (World Bank 1995d). However, an economic downturn meant that the success in the expansion of secondary education could not be sustained. The gross enrollment ratio in secondary education dropped to 72.3 percent in 1995.

Today, primary schooling is essentially universal, and secondary schooling covers about three-quarters of children in the relevant age group. Girls have similar access to schooling as boys, but they perform better than boys at all levels of education. In addition, repetition rates in primary schools are less than 2 percent, and dropout rates are even lower, except for standard V students (Government of Trinidad and Tobago 1999). Thus, Trinidad and Tobago has made significant achievements in education over time; its participation rates in education compare favorably with those in other Caribbean and Latin American countries.

As access to education has expanded and alternative forms of school ownership have emerged, education programs have also proliferated. For example, at the secondary level, three-year schools offer the first three years of secondary education; two-year schools offer the final two years of secondary education and teach technical-vocational subjects in addition



to academic subjects; and five and seven-year schools focus largely on the academic subjects. The education system is diversified and fragmented. The stratification of the system both reflects and contributes to inequality and inequity in the larger society.

Trinidad and Tobago's economy was dependent on sugar exports before independence, and it has become increasingly dependent on petroleum since independence. The energy sector accounts for about 25 percent of GDP and between 15 and 20 percent of the central government's tax revenues (Government of Trinidad and Tobago 1996a). The country is among the most industrial in the Caribbean region. However, its dependence on revenue from the petroleum industry makes government spending, including spending on education, vulnerable to fluctuations in the price of petroleum in the international market. For example, the fall in the price of petroleum in the late 1980s led to a sharp decline in national output and government revenue in real terms and resulted in austerity measures for education and other sectors. Per capita gross national product (GNP) stood at US\$7,000 during the early 1980s and fell to US\$3,700 in 1994 (World Bank 1995d).

However, economic conditions have improved in the past few years.<sup>1</sup> For the sixth year in a row, output continued to expand in 1999 (GDP growth accelerated to 5.1 percent, from about 3 percent in 1997 and 1998); the real exchange rate has remained competitive; and both inflation and unemployment, at 3.4 and 13 percent, respectively, are lower than they were in 1992–93. The significant increase in international oil prices in 2001 was a positive development for the country.

Although the fiscal situation deteriorated in 1998 and 1999 (the overall public sector deficit almost tripled to 3.1 percent of GDP in 1999, as value-added tax collections fell by almost 23 percent), the government made the necessary adjustments in order to avoid any serious fiscal imbalances. This included measures to contain growth in current expenditures, and the reprioritization of the public sector's capital budget.

The external current account deficit, at over 10 percent of GDP in 1997 and 1998, was turned into a surplus of 0.2 percent of GDP in 1999, mostly because of a sharp decline in capital goods imports and the improvement in oil and gas prices and the increase in export volumes, as important new gas and petrochemical projects became operational. This current account surplus and the recent Eurobond government issues on more favorable terms as a result of the upgrade in the country's sovereign debt rating have allowed the central bank to accumulate significantly greater foreign reserves (net international reserves currently stand at over US\$1 billion), providing the equivalent of about five months of import coverage.

## The Education System

The education system consists of pre-primary, primary, secondary, and tertiary levels. Government, assisted, and private institutions participate in the first three levels of education; government and private institutions operate in tertiary education (see table 7-1).

Pre-primary education is geared for 3 and 4 year-old pupils. In 1996, 81 percent of the total enrollment of 24,784 was in private schools. Female students made up 49.5 percent of the total. In 1998, 43 percent of 3 and 4 year-olds received some form of pre-primary education (Government of Trinidad and Tobago 1999: 9).

<sup>1</sup> The rest of this section is based on Inter-American Development Bank data.

Table 7-1. The Education System in Trinidad and Tobago, 1999/2000

Subsector	Age of students	Years of study	Enrollment	Percent female	Entrance requirement <sup>a</sup>
<i>Pre-primary<sup>b</sup></i>					
Government	3–4	2	1,487	49.5	3 years old
Assisted	3–4	2	3,222	49.5	3 years old
Private	3–4	2	20,075	49.5	3 years old
Total	3–4	2	24,784	49.5	
<i>Primary (infant classes, standard I–V)</i>					
Government	5–11	7	47,870	49.0	5 years old
Assisted	5–11	7	111,097	49.0	5 years old
Private	5–11	7	5,026 <sup>c</sup>	49.6	5 years old
Post-primary (standard VI–VII)	12–13	2	3,769	51.8	Failed CEE
Primary and post-primary total	5–13	7–9	167,762	49.1	
<i>Secondary (forms I–VI)</i>					
Junior secondary schools	12–14	3	33,053	50.3	CEE for form I,
Traditional government schools	12–18	5–7 <sup>d</sup>	12,757	54.2	SLC for form II,
Assisted schools	12–18	5–7 <sup>d</sup>	21,068	51.2	14+ exam for
Comprehensive schools	12–18	5–7 <sup>d</sup>	31,084	49.7	form IV, and CXC
New secondary schools	12–18	5–7 <sup>d</sup>	7,547	56.8	for form VI
Private schools	12–18	5–7 <sup>d</sup>	4,113 <sup>c</sup>	68.0	
Total	12–18	3–7	109,622	51.9	
Form VI enrollment within secondary schools <sup>e</sup>	17–18	2	7,353	60.9	CXC
<i>Tertiary (public)</i>					
Technical institutes	17–18	2	4,000		NEC
Teachers' college	17–19	3	500		CXC
University of West Indies	19–24		5,348		GCE "A"

<sup>a</sup> CEE is the Common Entrance Examination for standard 5 students, SLC is the School Leaving Certificate examination for students completing the post-primary program, CXC is the Caribbean Examination Council examination for form V students, NEC is the National Examination Council, and GCE "A" is the advanced level of the General Certificate of Education.

<sup>b</sup> 1996/97 data.

<sup>c</sup> Estimated, based on the survey of private schools in 1992 and 2000. The government reported that in 2000/2001, there were 64 private schools at the primary level and 64 at the secondary level.

<sup>d</sup> Secondary schooling covers forms I–V. Sixth-form education (two years) is available in selected secondary schools.

<sup>e</sup> The enrollment in form VI (6,376) was part of the total enrollment in all secondary schools (107,992).

Source: Ministry of Education, Government of Trinidad and Tobago.

Primary education is a seven-year program consisting of infant I and II and standard I–V classes. Most primary students attend assisted schools. In November 2000, there were 484 public primary schools, consisting of 142 government schools and 342 assisted denominational schools. Total enrollment in public primary schools was 162,736, with 51 percent

males and 49 percent females (Government of Trinidad and Tobago 1999: 14). In 1998, total enrollment in government primary schools amounted to 79.6 percent of the official school-age population.

Until the year 2000, standard V students wrote the Common Entrance Examination (CEE); the Secondary Entrance Assessment

(SEA) examination replaced the CEE in 2001. Prior to 2000, students who were not placed in a secondary school on the basis of the CEE enrolled in a two-year, post-primary program in a primary school or post-primary center. They then took the School Leaving Certificate (SLC) examination. However, in 2000, all students who wrote the CEE were placed in secondary schools.

Secondary education is five years (forms I–V). Various secondary schools offer secondary programs of different lengths and types. Secondary schools include junior secondary schools for form I–III students; traditional government schools; assisted schools; new secondary schools; private schools for form I–V students in academic programs; and comprehensive/composite schools for form I–V students, offering both academic and vocational/technical programs in forms IV–V. The government funds and manages traditional government schools, new secondary schools, and comprehensive schools. Students completing form III in junior secondary school can take the 14+ examination for entry into form IV. Some secondary schools offer a two-year form VI matriculation program.

The different types of secondary schools can be classified into two sectors: the traditional sector, consisting of traditional government schools and assisted schools that offer academic education, and the new sector, consisting of junior secondary schools, comprehensive and composite schools, and other new schools that offer courses in academic and vocational/technical subjects. Females accounted for 60.9 percent of form VI students. In 1999/2000, 105,509 students (48.8 percent male and 51.2 percent female) were enrolled in 100 public secondary schools that consisted of 70 government schools and 30 government-assisted schools (unpublished information from the Ministry of Education, Government of Trinidad and Tobago).

Students completing form V sit for the Caribbean Examination Council (CXC) examination for entry into form VI. A small proportion of form V students also take the General Certificate of Education ordinary level (GCE “O” level). But entry into vocational craft programs in the technical institutes requires scores from the National Examination Council (NEC). Students in the second year of form VI take the GCE advanced (“A”) level examination for admission into university.

Post-secondary education is primarily operated and financed by the government. It consists of technical institutes, teachers’ college, the University of West Indies (UWI), the Eastern Caribbean Institute of Agriculture and Forestry, and the National Institute for Higher Education.

Except for the university, the Ministry of Education runs the education system. The Ministry of Education has the authority to set educational strategies and policies, prepare the plan and budget for educational development, define curriculum guidelines and educational norms, and oversee the quality of education services. For administrative purposes, schools in Trinidad and Tobago are divided into eight areas. Ministry personnel at the area level provide curriculum support and instructional feedback to the schools and they also undertake classroom observation. The Ministry of Education receives advice from two permanent councils: the National Task Force on Education, which was created in 1991, and the National Council for Early Childhood Care and Education, which was created in 1994.

In addition to religious bodies and the private sector, nongovernmental organizations (NGOs) have a role in the education system. SERVOL (Service Volunteered for All), for example, is a religious NGO that is heavily involved in early childhood care and education programs.

## Expenditures and Financing

### Public Expenditures

A number of government agencies make public expenditures on education. The budget of the Ministry of Education contains the government allocation for pre-primary, primary, secondary, vocational-technical, and teacher education, as well as administration. The government also meets some of the recurrent costs of assisted schools through grants and payments for operational costs. Since 1995, the recurrent costs associated with teacher education have been included under primary and secondary education. Since 1991, the government allocation for tertiary education (including expenditure on UWI, the National Institute of Higher Education, and the Eric Williams Medical Sciences Complex) has been moved out of the Ministry of Education, and put under the budget of the Office of the Prime Minister. The Ministry of Finance pays for teachers' pensions and gratuities; the Ministry of Labor and Cooperatives supports the Cipriani Labour College; and the Ministry of Health provides the budget for advanced nursing courses and the medical complex at UWI.

The country went through a structural adjustment process in the late 1980s and early 1990s. Between 1985–87 and 1991–93, GDP fell by 6 percent in real terms (Wu 1995). Government revenue declined sharply and public debt rose; government debt servicing amounted to 31.1 percent of total government recurrent expenditure in 1994 and 28.9 percent of the total government recurrent budget in 1996 (Government of Trinidad and Tobago 1996a). These developments put a severe constraint on the government budget for education.

In 1996, the total education budget was 1,388 million Trinidad and Tobago dollars (TT\$); it consisted of TT\$1,263 million in re-

current cost (or 91 percent of the total) and TT\$125 million in capital cost (Government of Trinidad and Tobago 1996a). Most of the budget went to primary, secondary, and tertiary education and general administration. This budget did not include the Ministry of Finance's budget for pensions, which was estimated to be an additional 8.8 percent (Wu 1995: 16) of the total education budget. The Ministry of Labor and Cooperatives had an allocation of TT\$2.22 million for the Cipriani Labour College. The Ministry of Health's allocation for advanced nursing courses was negligible.

Nominal public expenditure on education increased from TT\$949.2 million in 1991 to an estimated TT\$1,388 million in 1996, an annual increase of 7.9 percent (Government of Trinidad and Tobago 1996a). In 1991 prices, it increased from TT\$949.2 million in 1991 to TT\$993.9 million in 1996, a real annual rate of increase of only 0.94 percent.

Both the fiscal-effort indicator (public expenditure on education as a percentage of total government expenditure) and the national-effort indicator (public expenditure on education as a percentage of GDP) have been on an upward trend since 1993, after the structural adjustment period of the preceding years (Ministry of Finance, Government of Trinidad and Tobago). The fiscal-effort indicator rose from 10.3 percent in 1993 to 12.8 percent in 1995 and then leveled off at 12.4 percent in 1996. It averaged 11.8 percent in 1993–96, a level much lower than the average of about 16 percent for most developing countries. Between 1991 and 1996, the national-effort indicator averaged 4.12 percent, which was in line with the average for most developing countries. This indicator actually decreased from 4.21 percent in 1991 to a low of 3.88 percent in 1993 and then moved back to 4.21 percent in 1995 and up to 4.36 percent in 1996.

Between 1994 and 1996, the percentage distribution of public expenditure on educa-

tion changed among subsectors. On the one hand, the share dropped by about 3 percentage points for primary education and by 2 percentage points for secondary education. On the other hand, the share for general administration rose from 10.13 percent in 1994 to 13.80 percent in 1996. School security is an issue in Trinidad and Tobago, and an allocation is made within the budget for general administration. In 1996, TT\$45.3 million of the general administration budget was devoted to security and maintenance of schools (Government of Trinidad and Tobago 1996a: 162). Tertiary education also experienced a significant rise in its share, due primarily to increases in allocations to UWI and the National Institute of Higher Education.

The impact of structural adjustment on the education sector can be seen in the sharply declining share of capital expenditure in the early 1990s. It dropped from 7.8 percent in 1991 to 3.2 percent in 1993 (Government of Trinidad and Tobago data). The amount of capital expenditure in education actually declined in nominal terms during this period, but the declining trend was reversed after 1993. Between 1991 and 1996, capital expenditure averaged 7.3 percent of total public expenditure on education.

In 1994–96, real public expenditure per student increased for primary, secondary, and tertiary education (Government of Trinidad and Tobago data). However, unit expenditures increased at different rates, so that the relative unit cost actually decreased for secondary education and increased for tertiary education.

In summary, in terms of government expenditure, the education sector had a difficult time during 1991–93, but rebounded after 1993. Between 1994 and 1996, both primary and secondary education lost ground, and tertiary education experienced significant gains.

## **Private Expenditures**

### *Household Spending*

The Ministry of Education and the Central Statistical Office conducted a survey of private schools in 1991, and the Ministry of Planning and Development conducted a survey of living conditions in 1992. Based on data from these surveys, Wu (1995: 9) estimates that household spending amounted to TT\$453 million, which was 2.0 percent of GDP in 1991. Since total public expenditure on education was TT\$949 million (4.21 percent of GDP) in 1991, household spending on education was a substantial source of resources for the education sector.

Private schools accounted for 81.0 percent of total enrollment in pre-primary education, 3.1 percent in primary education, and 4.6 percent in secondary education in 1996–97 (computed from table 7-1). In 1991, private education institutions had a total income of TT\$32.6 million from fees and a total recurrent expenditure of TT\$31.1 million (computed from Wu 1995: 57). The income from fees was part of the TT\$453 million estimated for household education spending.

In addition to spending on their children's schooling, households make contributions to education institutions in cash and in kind. The amount of household contributions varies substantially among education institutions. Some established schools raise up to several hundred thousand Trinidad and Tobago dollars a year from household contributions. Thus, household education spending and contributions are both an important part of the national resources for education and a source of inequality in education financing.

### *External Resources*

The World Bank and the Inter-American Development Bank (IDB) are the major external



**Table 7-2. Uncertified Primary Teachers in Government and Assisted Schools, Trinidad and Tobago, 1996–99**  
(Percent)

Area	1996	1998	1999
St. George West	30.8	31.2	28.2
St. George East	17.0	18.9	15.5
St. Andrew/St. David	28.6	31.8	29.3
Caroni	18.4	19.1	19.1
Nariva/Mayaro	35.5	36.8	37.0
Victoria	17.2	18.2	17.8
St. Patrick	19.1	19.9	18.7
Tobago	26.7	24.3	27.2
Total	22.5	23.4	22.0

Source: Government of Trinidad and Tobago, Ministry of Education (1999).

funding agencies. For example, a US\$51 million loan from the World Bank is financing the Basic Education Project for 1996–2002. The World Bank also provided a total of US\$27.7 million in loans for three education projects before 1980 (World Bank 1995d). The IDB has supported several loans and technical cooperation. For example, in 1996, the Ministry of Education successfully completed the Primary Education Program, which was funded by the IDB. The IDB's Multi-Sector Pre-Investment Program provides for a national human resource information management system that will support supply and demand analysis of all segments of the labor market.

## Critical Issues

The education sector must confront a number of critical problems in terms of school quality, inequality, and access.

### Quality

Teachers, facilities, and assessment tools impact the quality of education.

### Teacher Quality and Morale

A significant proportion of teachers in primary and secondary schools do not have the proper training. Data from the Ministry of Education show that in 1998, as many as 1,757 of the 7,493 primary school teachers in government and assisted schools were uncertified, that is, without proper teacher training at an approved teacher training college (Government of Trinidad and Tobago 1999: 135). The proportion of untrained teachers was more than 30 percent in three of the eight areas in the country. The proportion of uncertified primary teachers increased between 1996 and 1998 (table 7-2). In fact, in 1983, 100 percent of primary school teachers were certified. The deterioration in teacher training indicates that the effort and resources to train teachers have not kept up with the demand for trained teachers. In secondary schools, a large proportion of teachers do not have a college degree. For example, the proportion of nondegree teachers was 58 percent in junior secondary schools and 31 percent in other secondary schools (computed from Furlonge 1995: table 5).

In addition to the lack of training for some teachers, the content of training is also problematic with respect to the learning needs

**Table 7-3. Performance of Primary School Students on the Common Entrance Examination, Trinidad and Tobago, 1994**  
*(Percentage of students scoring below the minimum acceptable level)*

Subject	Government schools	Assisted schools	Private schools	All schools
Mathematics	44	37	13	38
English	55	49	12	50

Source: Government of Trinidad and Tobago data; Wu (1995).

of students. Both educators and policymakers alike recognize that teachers have been trained in the traditional pedagogy (teacher-centered, with learning based on memorization and repetition). Teachers have not been prepared to incorporate learning perspectives, hands-on experiences, and creativity-oriented techniques in their classroom instruction (Government of Trinidad and Tobago 1993).

Cuts in teacher salaries in periods of fiscal crisis have had adverse effects on teachers' morale and thus their teaching effectiveness (Wu 1995). The government tried to reverse this situation by substantially raising teachers' salaries (a 50 percent increase for some teachers) in December 2000. It should be pointed out that in 1999, the student-teacher ratio was 22 at the primary level and 21 at the secondary level. Both of these ratios compare favorably with other Caribbean countries. Improving training and raising the effectiveness of teachers are important challenges for the education system.

#### ***School Facilities and Instructional Input***

Maintenance of school facilities is a much-neglected area in the operation of schools in Trinidad and Tobago. Spending on school facilities has been minimal over a long period of time, and physical infrastructure has not kept pace with increased demand due to enrollment expansion. A survey of primary schools indicates that many of them are in poor phys-

ical condition and need major repairs or replacement (Furlonge 1995).

Textbooks, important educational inputs, are not available to all students. Using 1992 data, Wu (1995: 29) finds that 31 percent of primary students and 33 percent of secondary students from households in the bottom 20 percent of the income scale did not have textbooks, primarily because they were too expensive for such households. Although the government has a stated objective of improving access to textbooks, a tight fiscal constraint has hampered its efforts. A World Bank-financed project on basic education currently under way provides a start in addressing significant deficiencies in much-needed educational inputs (World Bank 1995d). For example, in 1999–2000, the project distributed free textbooks to needy students in primary schools.

#### ***Testing and Assessment***

The level of unsatisfactory performance on the CEE and CXC examinations is an indicator of the inadequate output of the country's primary and secondary schools. Table 7-3 shows that on the CEE, 50 percent of primary school students failed to achieve the minimum acceptable level in English, and 38 percent were below the minimum acceptable level in mathematics. Since the transition rate from primary to secondary school is within 70–80 percent (Furlonge 1995: 36), as many as 20 percent of

**Table 7-4. Satisfactory Performance Rates on the Caribbean Examination Council Examination, Trinidad and Tobago, 1989–2000**  
(Percent)

Subject	1989	1990	1991	1992	2000
<i>General education</i>					
English	39.0	28.6	28.3	31.9	60.4
Mathematics	30.1	30.5	32.2	30.7	46.0
Biology	38.7	44.7	36.3	37.3	64.5
Chemistry	56.3	49.1	50.0	47.1	59.7
Physics	43.8	45.0	48.1	37.0	55.3
<i>Selected vocational-technical</i>					
Office procedures	22.3	34.3	31.4	42.9	76.1
Technical drawing	52.2	51.3	60.3	51.7	75.2
Typewriting	48.4	42.5	38.3	44.6	54.8

Note: Data are for grades I and II in 1989–1992 and grades I–III in 2000.

Source: Furlonge (1995: tables 3 and 7); Caribbean Examination Council (2000: table 15).

primary school students enter secondary school without adequate preparation. In addition, the primary education subsector lacks continuous assessment of student learning and appropriate learning support for low achievers.

The performance of secondary school students in general education subjects is also unsatisfactory. Table 7-4 presents the satisfactory performance rates of form V students on the CXC examination in English, mathematics, and the sciences. It shows that only one-third to one-half of the students performed satisfactorily (grades I and II out of five grades) on the examination in 1989–92. The passing rates were in a declining trend during that period. In the May–June 2000 examination, a different grading scheme was used; grades I–III were considered satisfactory and IV–VI unsatisfactory. The satisfactory performance rates ranged between 46 and 64.5 percent.

Student performance in vocational-technical education is no better than in general education. In vocational-technical education, students can take the CXC examination in a wide range of vocational and technical

subjects, or they can take the NEC in craft areas. Table 7-4 presents the satisfactory performance rates (grades I and II in 1989–92 and grades I–III in May–June 2000) on the CXC examination for three of the most popular vocational-technical subjects. It shows that the rates ranged between 22.3 and 60.3 percent and varied significantly across subjects during 1989–92. The rates were different in 2000 because of a different grading scheme.

Table 7-5 presents the passing rates of full-time students in craft programs on the NEC exam. It shows the extremely low performance of students in senior comprehensive schools. In 1999, only 7.9 percent of the students passed all four subject components, and 44.2 percent did not pass any of the subject components. Although students from technical institutes performed much better than those from senior comprehensive schools, only about half of them achieved a full pass. A government study of vocational-technical education points out the outdated curriculum, poor facilities, and lack of equipment in this subsector (Government of Trinidad and Tobago 1995).

**Table 7-5. Passing Rates of Full-Time Students on the National Examination Council Exam, Trinidad and Tobago, 1990 and 1999**  
(Percent)

Institution	1990		1999	
	Full pass	No credit	Full pass	No credit
Senior comprehensive schools	8.5	37.8	7.9	44.2
Technical institutes	46.7	7.0	50.1	22.1

Source: Furlonge (1995: table 8); National Examination Council, Trinidad and Tobago.

### Disparities and Inequities

Large disparities in educational experiences characterize students from different socioeconomic backgrounds and in different education institutions. Access to schooling and knowledge favors students from higher-income households and from urban areas, which causes significant inequity in education. Table 7-6 shows how enrollment rates for four age groups vary by household expenditure, which is divided into five groups. Age groups 2–4 years, 12–15 years, and 16–19 years have large variations in enrollment

rates. The table indicates a correlation between enrollment rate and household expenditure level, with children from wealthier households having higher enrollment rates.

Significant quality differences occur among different types of education institutions early in the education system. At the primary level, students from well-to-do households attend private schools. The majority of students attend assisted schools, and government schools generally serve the most underprivileged children (the urban poor and rural students). Not surprisingly, less-well-to-do households spend less

**Table 7-6. Education Indicators by Household Expenditure Per Capita Quintile, Trinidad and Tobago, 1992**  
(Percent)

Indicator	Quintile					All
	1 (low)	2	3	4	5 (high)	
<i>Enrollment by age group (years)</i>						
2–4	21	27	43	37	51	33
5–11	93	95	98	99	99	96
12–15	81	87	92	95	97	89
16–19	28	34	53	53	67	45
Students without textbooks	31	14	8	4	4	
Household annual spending per capita on lunch and travel (Trinidad and Tobago dollars)	1,612	2,994	4,416	6,595	13,296	

Source: Survey of Living Conditions as reported in Wu (1995: tables 9, 14, and 15).

**Table 7-7. Earnings and Employment Rates by Educational Attainment, Trinidad and Tobago, 1991**

Indicator	Educational attainment			
	Primary or less	Secondary	Secondary plus training	Post-secondary
<i>Monthly earned income</i>				
Monthly earned income (TT\$, 1991)	1,220	1,436	1,944	3,803
Ratio of earned income	1.0	1.18	1.59	3.12
<i>Employment rate</i>				
Percentage employed	43.4	37.6	63.5	74.4
Relative likelihood of employment	1.0	0.87	1.46	1.71
<i>Relative wage of employed aged 15+</i>				
Ethnic group				
African/Indian	1.16	1.32	1.17	1.02
Others/Indian	1.08	1.60	1.48	1.20
Male/female	1.83	1.18	1.14	1.45

Source: Authors' calculations based on the 1991 labor force survey.

on their children's schooling, and a higher percentage of primary students from less-well-to-do households do not have textbooks (table 7-6). Table 7-3 shows large differences in student performance on the CEE by the end of the primary cycle. Students in private schools perform better than students in assisted and government school do. Children from higher-income households score higher on the CEE (Wu 1995).

Different types of schools at the secondary level continue and reinforce educational disparities at the primary level. The school system allocates students with higher scores on the CEE to the more desirable and better-equipped secondary schools. For example, primary students scoring in the 92–100 percentile go to seven-year secondary schools (forms I–VI), students in the 80–92 percentile go to five-year secondary schools (forms I–V), and students in the 20–80 percentile go to three-year junior secondary schools (Furlonge 1995: 37). Higher-income households are more represented in seven-year and five-year schools (Jules 1994).

Available information indicates that teachers in assisted schools have higher qualifications than teachers in government schools (Furlonge 1995: table 6); teachers in junior secondary schools have the lowest qualifications. In addition, many of the junior secondary schools have double shifts. Students in assisted schools perform better than students in government schools (such as the traditional government schools, comprehensive schools, and new schools) on the CXC examination (Wu 1995: table 20). In short, children from more-well-to-do households attend better schools and have higher educational attainment.

Differences in educational attainment are related to differences in labor market outcomes. Analysis of information from the government's labor force survey in 1991 finds that individuals with more education earned more and had a higher rate of employment (table 7-7). It also finds that at each education level, males earned more than females, and employed individuals of East Indian descent had the lowest relative wage among ethnic groups



(table 7-7). The sample consists of 6,151 individuals aged 15 years and over.

### **Limited Access and Inefficiency**

Despite widespread recognition of the importance of early childhood education, about half of the children in the relevant age group do not have access to early childhood education. The quality of early childhood education suffers because it lacks a coherent curriculum, has inadequately trained teachers and unsatisfactory facilities and equipment, and lacks assessment of pupil learning (Furlonge 1995).

The government recognizes that improving the quality of education at this level can have an important impact on both the quality and efficiency of higher levels of education. Since 1995, through the implementation of the Fourth Basic Education Project, the early childhood care and education subsector has expanded and improved. For example, this project has trained existing and new teachers, constructed new facilities, updated existing facilities, and improved the curriculum.

Each year, about 20–30 percent of primary students are not admitted to secondary school. They are put into post-primary classes with a poor learning environment. Some of them manage subsequently to pass the SLC examination and enter a secondary school, while others exit the education system without much gain in learning. Post-primary classes have high wastage and low internal efficiency. The school system needs to improve the quality of primary education, expand access to secondary education, and discontinue post-primary classes.

Secondary vocational-technical education is a significant source of inefficiency in the education system. Studies document that graduates of vocational-technical education have no significant advantage in labor market outcomes compared with their counterparts

in academic education (Chin-Aleong 1988; Furlonge 1995). But vocational-technical education costs much more than academic education. For example, the per student recurrent cost of a diversified program in a senior comprehensive school is about 50 percent more than that in a traditional academic school, and the per student capital cost of the former is 150 percent more than the latter (computed from Chin-Aleong 1988: 317). Thus, secondary vocational-technical education has significantly lower external efficiency than academic education.

Secondary vocational-technical education also has low internal efficiency because of low student performance and passing rates in a number of subjects. Low passing rates imply a high cost per graduate of vocational-technical education. For example, the cost per graduate in specialized crafts is about 26 times the per student cost of vocational-technical education (computed from Chin-Aleong 1988: 309). Rigid and nonresponsive programs and inadequate equipment and maintenance plague vocational-technical education institutions (Government of Trinidad and Tobago 1995).

Compared with males, females are significantly less represented in vocational-technical education programs in schools and vocational training programs outside formal schooling (Furlonge 1995; Tsang 1997b).

### **Policies and Financing Strategies**

Leaders in Trinidad and Tobago see the role of the education and training system not only in terms of meeting the skill demands of a changing economy, but also in establishing and maintaining moral development for civilized social interaction in a multicultural, multi-ethnic, and multireligious society (Govern-

**Table 7-8. Financing Strategies and Options, Trinidad and Tobago**

Strategy	Options
Mobilizing additional resources for education	<ul style="list-style-type: none"> <li>• Increasing government spending on education (for example, raising the fiscal effort from around 12 percent to 14–15 percent, gradually over a period of time)</li> <li>• Increasing cost recovery in public tertiary education</li> <li>• Promoting community/private sector support for school maintenance and repair</li> <li>• Encouraging additional private sector involvement in the delivery of education services (particularly in tertiary education, early childhood education, and vocational-technical education and training) and financing education (especially vocational-technical education and training and tertiary education)</li> </ul>
Increasing efficiency	<ul style="list-style-type: none"> <li>• Removing post-primary classes and expanding access to first-cycle secondary education</li> <li>• Raising teachers' effectiveness in basic education</li> <li>• Focusing on general education at the secondary level and moving formal vocational-technical programs to the post-secondary level</li> <li>• Improving the flexibility and responsiveness of vocational-technical education and training</li> <li>• Strengthening the management capacity of the Ministry of Education and promoting decentralization in decisionmaking in education</li> <li>• Streamlining the operation of the Ministry of Education to achieve cost savings, thus reducing the share of administration cost in the budget of the ministry</li> <li>• Developing a mechanism (acceptable to educators and employers) for certifying the learning achievement of secondary-school leavers</li> </ul>
Targeting uses of educational resources	<ul style="list-style-type: none"> <li>• Assuring access to early childhood care and education for children from poor backgrounds</li> <li>• Providing textbooks to children from poor backgrounds</li> <li>• Supporting school-level reform for schools with a high concentration of low-achieving students</li> <li>• Construction of new schools in underserved areas</li> </ul>

ment of Trinidad and Tobago 1993). Observers point out the importance of equal and nondiscriminatory treatment among citizens of all backgrounds (Ramadar 1997). Conceptually, the education response to the current and emerging challenges consists of three sets of strategies: achieving quality basic education for all, reforming secondary education, and improving the responsiveness and flexibility of the education and training system. The financing strategies consist of mobilizing additional resources from various sources, utilizing resources more efficiently, and targeting high-priority programs and interventions (table 7-8).

### ***Achieving Quality Basic Education for All***

Basic education is defined as education from early childhood to form V. The major goal of basic education is to equip individuals with the necessary basic knowledge and skills so that they can participate effectively in the economic, social, and political aspects of life (Inter-Agency Commission 1990). The completion of basic education should enable an individual to either seek higher educational qualification or obtain gainful employment and possess the ability to learn throughout life. The government's goal of establishing and maintaining a sound and equitable system of basic education

represents its commitment to sustainable human resource development that is indispensable for broad-based national development (Government of Trinidad and Tobago 1993). In Trinidad and Tobago, the strategy for achieving quality basic education for all should have three related emphases: improving quality, expanding access, and targeting resources and programs at low-achieving students and out-of-school children and young adults.

Improving the quality of basic education should be a top priority of education development in Trinidad and Tobago, and may include the following interrelated policy options:

- Improving teacher training and raising teachers' effectiveness
  - Developing a system of continuous assessment and monitoring of student learning
  - Improving curriculum and pedagogy to encourage student-centered learning
  - Providing safe and adequate facilities
  - Strengthening the management capacity of the Ministry of Education and promoting more decentralized decisionmaking in schools and in the education bureaucracy
  - Running secondary schools without double shifts
  - Developing an alternative to the CXC examination for certifying secondary education graduates.
- Phase out post-primary classes and expand classes in forms I–III
  - Construct new five-year secondary schools to promote equitable access
  - Convert junior secondary schools into five-year secondary schools (Government of Trinidad and Tobago 1996b)
  - Purchase student places from private schools.

The government should target resources and programs at low-achieving students and schools and at out-of-school children and young adults. It should assure access to early childhood care and education for children from poor backgrounds. It should provide textbooks to children from poor backgrounds. It should provide financial and technical support for school-level reform in schools with a high concentration of low-achieving students. And it should construct schools in underserved areas.

### ***Reforming Secondary Education***

Reform of secondary education will require restructuring institutions and the curriculum. Institutional restructuring should aim to remove fragmentation and stratification in secondary education. The reform of secondary curriculum should seek to strengthen the learning of general skills to make students more adaptable to changes in the workplace and in society at large.

Several specific interventions should characterize this reform effort. First, the school system should convert junior secondary schools into five-year secondary schools. Second, it should remove diversified and vocational-technical programs from secondary education (including specialized craft programs and vocational-technical clusters). Third, it should convert senior comprehensive schools into academic schools. Fourth, it

In conjunction with its efforts to improve quality, the school system should steadily expand access to basic education over time so that the country will achieve universal access in the first cycle and subsequently in the second cycle of secondary education. The school system should undertake the following specific interventions:

- Expand access to early childhood care and education

should develop a common curriculum among secondary schools that emphasize general education. And fifth, it should introduce technology education in secondary schools as a general education subject.

### ***Improving Responsiveness and Flexibility***

In order to improve the responsiveness and flexibility of the education and training systems, the Ministry of Education needs to enhance the linkage between education and training institutions and the productive sector, and to diversify the education and training paths for employment. This strategy emphasizes development of a system of demand-driven vocational-technical education and training as well as continuing and alternative education programs.

The report of the National Task Force on Technical and Vocational Education and Training contains some promising proposals (Government of Trinidad and Tobago 1995). Specific interventions include the following:

- Locating the development of formal vocational-technical programs in post-secondary education, not in secondary education
- Strengthening the coordination between the National Training Board, employers, and various post-secondary institutions concerned with vocational-technical education
- Expanding “second-chance” education and continuing learning opportunities for adults
- Encouraging the delivery of vocational-technical programs by both public and private institutions
- Expanding vocational-technical training programs for female participants.

### ***Financing Strategies***

The school system will need to mobilize additional resources from government and non-

governmental sources to finance education interventions. The government’s fiscal effort is relatively low compared with the average for developing countries. With stable macroeconomic conditions and revenue, the government should aim to gradually increase the fiscal-effort indicator for education by 2–3 percentage points.

Students, households, local communities, and the private sector can provide an important source of additional resources for the sector. Currently, university students pay tuition equal to 15 percent of the per-student operating cost of university education. The government may explore the feasibility of raising university tuition to about 20–25 percent of the unit operating cost. It may also provide financial assistance to students from poor backgrounds and explore the feasibility of a student loan program.

Families and local communities can play an important role in supporting the maintenance and repair of primary schools by contributing in cash or in kind. The government may explore launching an “adopt a school” program (as in Barbados), in which various community organizations contribute to school maintenance and repair. Such a program not only brings much-needed resources to education, it also strengthens the school-community relationship that is often an essential part of the foundation of a functioning school. And the private sector could play a bigger role in the delivery of education services, especially in tertiary, vocational-technical, and early childhood education.

Resource mobilization should be accompanied by interventions to improve efficiency in the delivery of services; otherwise, additional resources may be wasted or not used cost-effectively. Among the various options, the most important ones include restructuring secondary education, raising the effectiveness of teachers in basic education,

and improving the flexibility and responsiveness of vocational-technical education and training.

The education system will have to target the use of resources to ensure that adequate resources reach high-priority programs and interventions. For example, interventions could improve the learning of low achievers in both primary and secondary schools, and promote access to basic education for children from poor backgrounds.

## **The Government's Education Sector Strategy and the Role of Donors**

### ***Focus on Achieving Universal Secondary Education***

Government officials and educators in Trinidad and Tobago recognize the critical education issues facing the country. The government has begun addressing these issues through both policy formulation and concrete interventions. For example, the government's *White Paper on Education Policy, 1993–2003* places a premium on the delivery of quality universal secondary education and the reorganization of education services, including greater support for school-based management, decentralization, and performance incentives. The government has acceded to the 1997 declaration of the CARICOM Ministers of Education, which calls for achieving universal secondary education in member countries by 2005. As a measure to improve overall internal and external efficiency, the government has further made a commitment to modernizing the content and delivery of education in line with developing needs, and to moving specialized technical-vocational education and training from the secondary to the post-secondary level.

Future development of the secondary education subsector will require a major investment program in order to transform the system into an efficient service capable of responding to the needs of all qualified students rather than those of a privileged few. The government's seven-year national development plan (1998–2005) has reaffirmed the objective of universal secondary education and is consistent with the legal framework of the existing education sector. A Cabinet decision is pending regarding the plan for reorganization of the Ministry of Education that includes the organization of regional education offices as well as the empowerment of school boards and school principals. The prospect of de-linking teachers' salaries from the public service and establishing a new classification of remuneration and incentives requires further analysis of alternatives and an assessment of institutional and financial impacts before an informed Cabinet decision can be made.

### ***The Role of Donors***

In 1999, the IDB approved a US\$105 million loan for the comprehensive reform and expansion of Trinidad and Tobago's secondary education system through the Secondary Education Modernization Program (SEMP). The loan will support the policy decision to provide universal access to five continuous years of equitable, sound, general secondary education. It will enable the country to transform its education system into a learning culture for both students and teachers.

The program consists of four articulated components:

- Improved education equity and quality, including a robust curriculum, new instructional resources, and teacher development
- Deshifting, rehabilitation, and upgrading of secondary school infrastructure



- Institutional strengthening
- Studies and measures for improved sector performance.

The outcome of this effort will enable the government to do the following:

- Universalize five years of equitable, high-quality secondary education
- Deshift all junior secondary schools
- Remove the CEE
- Establish standards for continuous assessment and the certification of secondary school graduates
- Introduce a performance-based remuneration package for teachers
- Transfer specialized technical-vocational education and training from secondary schools to post-secondary training institutions
- Introduce state-of-the-art science and technology education
- Strengthen the Ministry of Education's capacity at the central level
- Facilitate the establishment of regional education districts and the devolution of additional authority for school-based management.

The SEMP is consistent with the IDB's lending strategy, which includes efforts to promote sustained economic growth and diversification, reduce unemployment and poverty, and create an efficient and enabling public sector. The SEMP will increase the development of human capital by extending coverage and improving the effectiveness of mainstream secondary education. It will improve the education status of the poor by increasing access and equity at the secondary level. Institutional strengthening and decentralization efforts will improve the quality and efficiency of Ministry of Education services.

In the past, the IDB has supported several loans and technical cooperation for education in Trinidad and Tobago. In 1996, the Ministry of Education successfully completed the third IDB-funded Primary Education Program. After an initial slow start, mostly due to the need to build up the ministry's institutional capacity and redesign the school-building component, the US\$46 million project achieved its targets. The Multi-Sector Pre-Investment Program provides for a national human resource information management system that will support supply and demand analysis of all segments of the labor market and guide SEMP curriculum development. The Multilateral Investment Fund is contributing US\$3.6 million to a high-technology training program for at-risk youth administered by the NGO SERVOL.

The World Bank initiated the US\$20.7 million Youth Training Employment Partnership Program Project in 1991 to improve the quality and relevance of employment training programs (World Bank 1995d). The National Training Agency is reorganizing this program. In 1995, the World Bank approved a US\$121.7 million loan for the Fourth Basic Education Program (World Bank 1995d). The objectives of this program are to strengthen early childhood care and education, maintain universal primary education while improving quality, and support decentralization and school-based management at the primary level. Since the loan came into effect in May 1996, the program has established 20 early childhood care and education centers, trained two cycles of teachers, and constructed five primary schools. The program planned to begin construction of eight new schools in 1998/99. Throughout the execution of the program, the World Bank will coordinate closely with other donors to ensure complementarity and identification of lessons learned.

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## EDUCATION AND CULTURE

Many Caribbean nations are embracing knowledge-based and skill-intensive industries as a way to expand their economies in the 21st century. The aim is to boost the competitiveness and productivity of the region's most precious resource—its people—through investments that lead to a better-educated workforce with more employable skills.

*Access, Equity and Performance* focuses on policy and public financing strategies that must strike a balance between the need to improve education and the scarce resources available to do it. It examines the very different institutional responses to education issues in Barbados, Guyana, Jamaica, and Trinidad and Tobago. The different education systems and levels of development in these four nations allow for identifying a number of useful lessons about how to deliver education services equitably and effectively in an increasingly integrated and global context.

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