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Exchange Rates

Official Exchange Rates (LCU per US$, period average)

COUNTRY	1992	1999	2000	2001	2002	2003
Barbados	2.00	2.00	2.00	2.00	2.00	2.00
Dominican Republic	12.77	16.03	16.42	16.95	18.61	30.83
Jamaica	22.96	39.04	42.70	46.00	48.42	58.24
St. Lucia	2.70	2.70	2.70	2.70	2.70	2.70
Trinidad and Tobago	4.25	6.30	6.30	6.23	6.25	6.26

1992-2002 WDI, World Bank; DR-2003—CIA World Fact Book; 2003-Jamaica-BOJ website

Acronyms and Abbreviations

ACTI	Association of Caribbean Tertiary Institutions
ADCLC	Adolescent Development Community Life Center
ATO	Accredited Training Organization
CANTA	Caribbean Association of National Training Agencies
CARICOM	Caribbean Community
CATI	Cornwall Automotive Training Institute
COSTAATT	College of Science, Technology and Applied Arts of Trinidad and Tobago
CNVQ	Caribbean National Vocational Qualifications
CSEC	Caribbean Secondary Education Certificate
CSME	Caribbean Single Market and Economy
CXC	Caribbean Examination Council Examination
DR	Dominican Republic
ECE	Early Childhood Education
ECIAF	Eastern Caribbean Institute of Agriculture & Forestry
ESSJ	Economic and Social Survey of Jamaica
FAP	Financial Assistance Program
GNI	Gross National Income (per capita)
GOJ	Government of Jamaica
GVC	Government Vocational Center, Trinidad
HEART/NTA	Human Employment and Resource Training Trust / National Training Agency
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
ILO	International Labor Organization
INFOTEP	The National Institute of Vocational Training
IT	Information Technology
JAGAS	Jamaica - German Automotive School
JEF	Jamaica Employers Federation

JLC	Junior Life Center
JSDTI	John S. Davidson Technical Institute
LAC	Latin America and the Caribbean
LF	Labor Force
LM	Labor Market
MIC	Metal Industries Company
MOA	Memorandum of Association (MOA)
MOEYC	Ministry of Education, Youth and Culture
MSTTE	Ministry of Science, Technology & Tertiary Education
NCTVET	National Council on Technical and Vocational Education and Training
NELP	National Enrichment Learning Program
NESC	National Energy Skills Center
NGOs	Non-Governmental Organizations
NOJT	National On-the-Job Training (Program)
NQF	National Qualification Framework
NSDC	National Skills Development Center
NTA	National Training Agency
NTATT	National Training Agency of Trinidad and Tobago
NVQ	National Vocational Qualifications
NYDAC	National Youth Development Apprenticeship Center
NYS	National Youth Service
OECS/OERU	Organization of Eastern Caribbean States/Education Reform Unit
PIOJ	Planning Institute of Jamaica
SALCC	Sir Arthur Lewis Community College
SDC	Social Development Commission
SERVOL	Service Volunteered for All
SFTI	San Fernando Technical Institute
SJPP	Samuel Jackman Prescod Polytechnic
STATIN	Statistical Institute of Jamaica
TVET	Technical and Vocational Education and Training
UTECH	University of Technology
UWI	University of the West Indies
VET	Vocational Education Training
VTC	Vocational Training Center
VTDI	Vocational Training Development Institute
YDAC	Youth Development and Apprenticeship Center
YTEPP	Youth Training and Employment Partnership Program

Introduction

As part of a larger study on ***Growth and Competitiveness in the Caribbean,*** the World Bank commissioned this paper on firm and worker training in the Caribbean. The topic was selected because of the view that a key constraint to growth and competitiveness is inadequate skill formation and knowledge absorption.

The main objective of the analysis, focusing on skills and technology absorption, is to examine the challenges and opportunities facing the Caribbean in promoting skills and technology with the aim of increasing productivity.

Firm and worker training is expected to increase labor productivity through improved skills of the workforce. If implemented right, technical and vocational training of the workforce has shown significant impact on employability, salary and productivity and is furthermore known to facilitate increased investment in technology. However, numerous studies have highlighted the failure of publicly administrated and provided training. This study will assess to what extent the Caribbean governments, private sectors and worker associations have succeeded in promoting productivity through training policies.

Objective: The objective of this paper is to present a comprehensive picture of the status of firm and worker training in the Caribbean and assess to what extent the Caribbean governments, private sectors and worker associations have succeeded in promoting productivity through training policies. Further, the study will detail the constraints to increase efficiency, quality and relevance of training and the possible policies to overcome these constraints

Scope: Given constraints in terms of both time and other resources, the scope of the study is limited to Barbados, Dominican Republic, Jamaica, St. Lucia (as representing an OECS country), and Trinidad & Tobago.

The study examines training provided in firms as well as pre-employment and unemployment training; the study does not address the vocational and technical formal education (this is part of the analysis of the formal education system), but does touch on the tertiary system, as many training programs are located there.

The study has seven sections:

1. **An Overview of Growth and Competitiveness Issues in the Caribbean in Relation to Training**
2. **Stylized Facts on Training in the Caribbean**
   a. Information on how many workers receive training,
   b. The kind(s) of training provided (length of training and skill level);
   c. Where training takes place (in-side the enterprise, in training centers, education institutions)
   d. Who receives training in the Caribbean (by employment status, income, gender, age, education, economic sectors, and region) and to the extent possible,
   e. Whether there is excess demand for training

   This section is accompanied by a comprehensive Appendix with data on training in the Caribbean.
3. **Governance and Institutional Structure.** The section presents a typology of the institutional structures for training in the Caribbean, and discusses the management of resources, private sector involvement in decision making about training, the sources of funding, public policy objectives of public-financed training programs, targeting of training, and integration of the training system with the formal education system. The section attempts to answer the following key questions:
   - *To which extent is provision, financing and regulation of training carried out* by the same agency?
   - *Can it be confirmed that the managing (public) training agency supplies the* majority of training of the publicly managed funds?
   - *What is the degree of competition in provision?*
4. **Economic impact of training.** This section surveys available evidence of the economic impact of training on labor market outcomes (employment and wages) and on firm productivity and investment. Further, it attempts to assess whether the supplied training matches the demand.

5. **Financing, costs and efficiency of training.** This section presents a regional view of financing of training in the Caribbean (pay-roll deducted training levy, co-financing from public and private side, the possibility of deducting payment for own training) and compares it with similar financing schemes in the world (level of tax levy, for example). Further, it estimates unit costs for training for selected Caribbean countries, and looks at other efficiency factors such as overhead costs, utilization rates of equipment and salary costs. The section attempts to answer the following questions:
   - *How many resources are generated from the mandatory pay-roll levy and* directed to the public agency for training? (includes table of pay roll levy by country and total amount collected yearly)
   - *Are the public training agencies efficient and cost-effective?*
6. **Regional Approach to training.** This section briefly summarizes the on-going work within the Caribbean Association of National Training Agencies, CANTA. Further, the paper presents and evaluates the possibilities for future collaboration/harmonization of enterprise training and national qualification frameworks in the Caribbean, including considerations regarding the feasibility and desirability of a common, open market for provision of training in the region. Planning and research issues are discussed as well as instructor preparation and training.
7. **Some Conclusions, Considerations and Recommendations**

Data: The data for these studies have been collected from various existing sources: administrative records of training agencies, firms' surveys, household/labor force surveys, and sectoral analyses conducted by the ILO, IDB and World Bank.

Limitations: Since the study relies on existing data, there are many gaps where information on training at the national level is simply not available. In most cases neither labor market surveys nor household surveys capture information on training (Jamaica captures a minimal amount of data), training statistics for public-financed training programs are not consolidated in three of the countries, and very little systematic data is available on training in firms and the linkage between training and productivity. Furthermore, data available on particular topics are not aimed at assessing or measuring the same things across countries.

1. An Introduction to Growth and Competitiveness Issues in the Caribbean

1.1 A Productivity Gap

Economic growth in the Latin America & the Caribbean (LAC) region lags behind that of the rest of the world with the exception of Africa. The development literature generally relates this to a deficit in productivity (de Ferranti et al, 2003; Gill, 2002, Marquez, 2002), and that this deficit is related, in turn, to weak knowledge absorption and use of technology throughout the region. In the past fifty years, per capita income in LAC went from $3,000 to $6,200, more than doubling, but that in the OECD countries it more than tripled, going from $7,300 to $23,000 per capita.

This "productivity gap" includes a number of factors that appear to be important antecedents to increasing productivity including the level of educational attainment of the population, the absorption of technical, scientific and mathematical knowledge, R&D expenditure, an innovation system, and use of computers.

To close the gaps, countries in the region need to synchronize improvements in educational access and efficiency, innovation systems and technology adoption in their economies. Ultimately, to close the gaps, the behavior of firms needs to change in order to make these economies competitive, and firms must work with their workers and with students to increase skills and knowledge, adopt new technologies, and develop innovations.

An examination of the countries in the Caribbean region shows the above analysis to be relevant to the Caribbean sub-region. During the 1990s, productivity grew slightly in the Dominican Republic and Barbados (but at only about half the rate of more economically successful countries), but declined significantly in

Jamaica and Haiti, and slightly in Trinidad & Tobago (no productivity growth data is available on St. Lucia). The raw data are shown in Table 1.1 and displayed graphically in Figure 1.1.

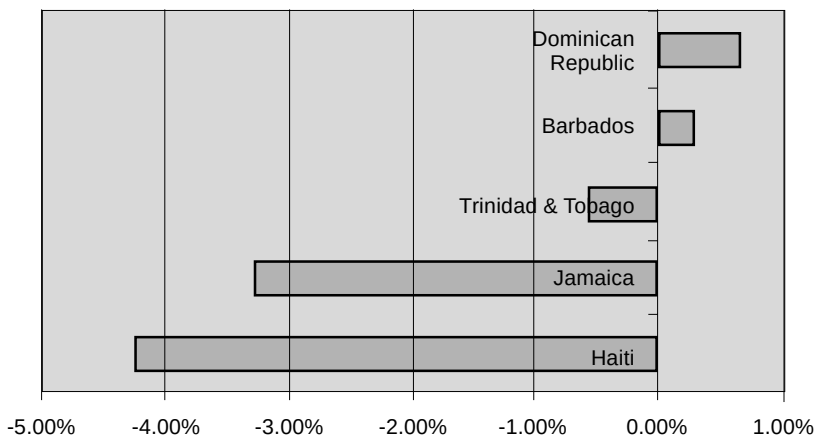
Table 1.1 Productivity Growth in the 1990s (In percent)

Country	Total factor productivity average growth rate in the 1990s
Haiti	-4.23%
Jamaica	-3.27%
Trinidad & Tobago	-0.56%
Barbados	0.28%
Dominican Republic	0.64%

Source: IDB calculations reported in Gill (2002)

It is important to note at the beginning, however, the great diversity among the countries in the region. Stretching from Guyana in the south to Jamaica and Belize to the northwest, there are wide variations in country size and popula-

Figure 1.1 Total Factor Productivity Average Growth Rate in the 1990s



Source: IDB calculations: http://www.iadb.org/res/publications/pubfiles/pubB-2001E_235.pdf

tion, with the numerous very small islands presenting their own set of issues. This analysis focuses mostly on the English speaking Caribbean, and there is a fairly similar culture across these countries, but the Dominican Republic and Haiti feature quite different cultures, political legacies and languages. Further, the differences among the countries are significant enough that it is prudent to place the analysis of training against a background of the economic and social context from which the training systems arise.

1.2 Basic Economic Indicators

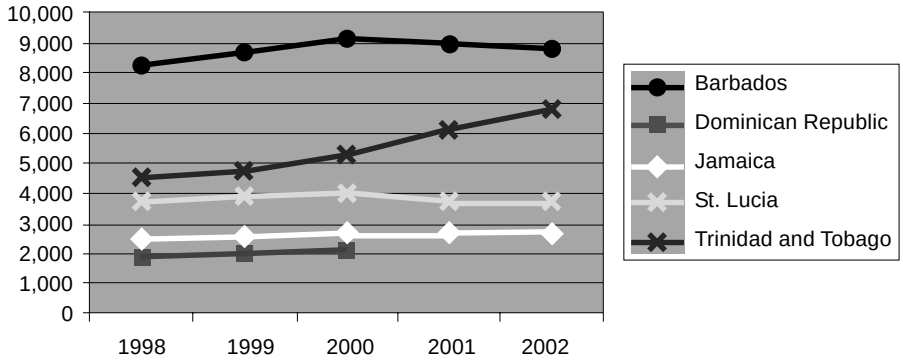
In terms of per capita income, Barbados, Trinidad & Tobago and St. Lucia have upper middle-income economies, Jamaica is near the top of the lower middle-income range with Dominican Republic close to that, and Guyana is toward the bottom of the lower middle-income range. There are also important differences in the bases of the economies throughout the region. Trinidad & Tobago has oil and gas and light manufacturing with rising GNI per capita, the Dominican Republic has a significant industrial capacity in its Free Zones, bauxite mining is important in Jamaica and Guyana, while tourism is important in Jamaica, the Dominican Republic, St. Lucia and Barbados. The economies all have in common an increase in services as contributors to GNI and the declining contribution of agriculture to GNI.

Table 1.2 Gross National Income per capita

Countries	1998	1999	2000	2001	2002
Barbados	8,230	8,650	9,130	8,980	8,790
Dominican Republic	1,870	1,970	2,140	—	—
Jamaica	2,450	2,610	2,710	2,710	2,690
St. Lucia	3,700	3,880	3,980	3,750	3,750
Trinidad and Tobago	4,540	4,740	5,300	6,160	6,750
LAC Region Average					3,280

Source: World Development Indicators database

Figure 1.2 GNI per Capita



Source: World Development Indicators, 2004

Inequality is an important feature of the socio-economic landscape of the region, with the gap between rich and poor apparent in differential access to education and to a better quality education. These patterns affect the quality of the inputs into both the training system and the labor force. In the labor market, there is a sharp distinction related to social class, between staff and line personnel, and labor relations troubles are common in some of the territories. It is likely that these distinctions affect the question of who receives training (e.g. Downs, 2003).

Several of the countries in the region are among those considered severely indebted; this includes Guyana, Jamaica, Belize, and Dominica. Economic crises are also a factor; Jamaica underwent a financial sector crisis from 1998-2002, and the Dominican Republic suffered a financial crisis just recently beginning in January 2004. During the conduct of this analysis, the Dominican Republic was dealing with floods that killed hundreds of people, and hurricanes periodically create considerable destruction.

The migration of skilled and highly skilled labor is also a concern, with Jamaica, Trinidad & Tobago and the Dominican Republic being most prone to the phenomenon. The Dominican Republic was cited by Lowell (2001) as genuinely experiencing "brain drain" and he cited some alarming statistics for Jamaica as well (see also Economist, 28 September 2002). The migration of teachers and nurses, lured by special incentives in the United States and United Kingdom, has

affected both health care and the education systems of the countries. On the other hand, remittances are also of increasing importance, especially to Jamaica and the Dominican Republic. Programs in the United States for farm and tourism workers provide a kind of controlled, temporary migration that has particularly strong remittance factors. There are training programs aimed at this labor market, e.g. in Jamaica via the Ministry of Labor.

1.3 Basic Educational Indicators

One of the main problems identified as inhibiting growth in the region is both uneven access to education and low quality of educational outcomes. This affects the trainability of the working age population and is briefly reviewed to establish a context for comparison of other issues more directly related to training.

The educational data appear to support and be consistent with the productivity growth figures cited above to some extent, although the Dominican Republic's economic performance is actually stronger than the educational indicators might predict.

The World Bank (Márquez, 2002) characterized education and human capital development as follows:

> "Latin American countries are classified in three groups. First are those with relatively high human capital stocks: **Jamaica**, Uruguay, Argentina, Chile, Panama and Peru. These countries have educational attainment levels similar to those of Taiwan. Around 60 percent of their populations have some secondary schooling, and relatively few people have no schooling.
>
> In the second group, referred to as "intermediate stock," around 50 percent of the populations have no schooling or only primary schooling, and they are less well endowed with secondary schooling or higher education than the first group. Costa Rica, Ecuador, Venezuela, Colombia, Mexico, Brazil and Bolivia are classified in this group.
>
> The third group—Paraguay, the **Dominican Republic**, El Salvador, Honduras, Nicaragua and Guatemala—is labeled "low stock." Two-thirds or more of these populations have only primary schooling or less. Even taking these countries into account, however, Latin America is *not* a region with relatively abundant unskilled labor."

For the English speaking Caribbean, the countries not listed above are in a similar position to Jamaica in terms of simple educational attainment. The overall quality of education appears to be most important, as opposed to access and expenditure, although access to secondary education is still a problem in Jamaica,

Table 1.3 Average years of schooling of adults

Country	Years
Barbados (2000)	8.7
Trinidad and Tobago (2000)	7.8
Jamaica (2000)	5.3
Dominican Republic (2000)	4.9

Source: World Bank, World Development Indicators, 2004, Jamaica Survey of Living Conditions

Table 1.4. Public Sector Expenditure on Education

Country	Year	% of GDP
Belize	2000	6.2
Barbados	2000	7.3
Dominica	2000	6.7
Dominican Republic	2000	2.3
Grenada	2000	6.8
Guyana	2000	7.3
Jamaica	1999	7.2
St. Kitts and Nevis	2000	6.2
St. Lucia	2000	6.6
St. Vincent and the Grenadines	2000	5.8
Trinidad and Tobago	1999	7.7

Source: World Bank, (Public spending on education Caribbean 99-00.xls)

Dominican Republic, Guyana, St. Lucia and Trinidad. Jamaica's education expenditure is relatively high, but outcomes are poor. The Dominican Republic has serious problems with both access to and low expenditure on education. Barbados has the strongest educational performance in the region, and Trinidad appears to be getting better results despite its lower expenditure.

Table 1.5. Secondary School Enrolment (Net %)

Countries	1998	1999	2000	2001
Barbados	88	90	85	87
Dominican Republic	40	40	40	41
Jamaica	74	75	74	75
St. Lucia	65	—	70	70
Trinidad and Tobago	72	67	72	65

Source: World Development Indicators database

1.4 Outcomes of Secondary Education

The English speaking Caribbean uses the Caribbean Examination Council (CXC), headquartered in Barbados, to administer national exams called the Caribbean Secondary Education Certificate (CSEC) built upon the British model of the General Certificate of Education. These are subject tests in English, Math, Science, etc. and, in total, 36 different tests are offered, including ten that are technical and vocational. The core subject passes are used in the labor market as a valid signal of readiness for entry-level positions and are considered a good indicator of trainability. They are also used to determine who can gain admission to tertiary education[1]. The problem is that pass rates are low, and in a number

1 The CSECs are expected to be both a measure of secondary achievement as well as a signal of readiness for tertiary education; however, for those who cannot afford to sit the exams, the measure of high school achievement is not clear. The technical and vocational CSECs are also problematic in relation to industry-driven certifications of the national training agencies. The courses are not sufficiently practice-oriented to be considered vocational training and the schools are often not adequately equipped to undertake sufficient practical training. The value of these TVET certificates in the workplace is questionable, and it is likely that students take these to increase their total number of

of territories, especially Jamaica, the number of secondary completers who actually sit the exams is also low.

The overall pass rates for CSEC exams are an indicator of the readiness of the school leaving population to benefit from training. In the Caribbean at large, pass rates for English Language and Mathematics on CXC Caribbean Secondary Education Certificate (CSEC) examinations for the January 2004 sitting were:

- English—59 percent pass
- Mathematics—57 percent (Source: CXC, 2004)

Table 1.6 Secondary Passes in CSEC Exams

Country	English	Math
Barbados (2002)	56%	75%
St. Lucia (2002)	45%	61%
Trinidad (2002)	64%	51%
Jamaica (2003)	45%	36%
Caribbean (Jan, 2004)	59%	57%

Source: http://www.education.gov.lc/Statistics%20Website2/Ed%20at%20a%20Glance/CXC%20Exams2.pdf

Barbados enjoys the highest pass rates in the region as noted in Table 1.6, but note that only 56% passed English Language. Pass rates for Technical and Vocational subjects are notably higher than these pass rates for the basic academic subjects.

In Jamaica, in 2003, 45% of students who sat the CXC examinations at the end of the upper secondary cycle passed the English language examination and 36% passed the mathematics examination. (Planning Institute of Jamaica, 2004).

subject passes and to compensate for not passing in core subjects. These qualifications are now competing, to some extent, with the NVQs that have been introduced in recent years. In Jamaica, many secondary vocational students are pursuing both certificates.

The problems in secondary education reflect long-standing problems at the primary and even pre-primary level as well, especially in the Dominican Republic and Jamaica.

- In the Dominican Republic, some 16 percent of adults are unable to read and write, while only 16 percent of three-to five-year-olds in the poorest tenth of the population receives any education at all.
- In Jamaica, even though nearly every child completes sixth grade, one in three is still unable to read.

The result of the above facts is that all the countries have a proportion of their young people leaving school with essentially no (recognized) high school certification. These youth have high unemployment, are less likely to be admitted to training programs, and become at risk for anti-social behavior and crime. Programs are aimed at these young people, but the demand for them greatly outstrips supply, and the effectiveness of many of the youth programs is not apparent. This group presents a long-term problem for the countries which, in effect, have to carry an underclass who cannot be easily absorbed into the modernizing economies.

1.5 The Tertiary Education Factor

The literature suggests that the tertiary sector is critical for improving productivity. In the context of the current analysis, the professionals trained in the universities would comprise the managers and technical specialists that direct the skilled labor the training system is supposed to provide. Tertiary enrolment rates are far from that of OECD countries, and, with the exception of Barbados, lower than those in much of Latin America. There is an increasing amount of tertiary education available in the region, and Trinidad has a serious push to increase capacity, since they recognize they are seriously behind. Table 1.7 summarizes gross tertiary enrollment rates for the region (note that net enrollment rates may be much lower with Jamaica and St. Lucia known to be in the nine percent range).

1.6 Educational Achievement of the Workforce

The educational systems of the Caribbean produce a workforce that has an insufficient number of secondary and tertiary graduates. This is changing due to

Table 1.7 Tertiary Enrollment Rates (Gross)

Country	Description	Amount
United States	72.6 (2000)	
United Kingdom	59.5 (2000)	
Barbados	38.2 (2000)	
Saint Lucia	25.4 (1998-2002)	
Cuba	24.2 (2000)	
Dominican Republic	22.9 (1993-1997)	
Jamaica	16.4 (2000)	
Guyana	9.7 (1995)	
Trinidad and Tobago	6.5 (2000)	

Source: UNESCO

increasing amounts of education in successive age cohorts, however, the region lags in educational attainment, making it a continuing challenge to upgrade the existing workforce and be competitive with other countries.

Table 1.8 Educational level of the workforce (%)

Educational Indicators	Barbados 1998	Dominican Republic 2000	Jamaica 1998	St Lucia 1999	Trinidad 1998	U.K. 2001
Labor Force with Primary Ed	22	38.3	SEE TABLE BELOW	46	37.5	18
Labor Force with Secondary	74.7	18.6		20.6	55.4	47
Labor Force with Tertiary Ed	30.1	10.3		7.2	6.5	27
Literacy Rate	99.7	84.4	87.6	N/A	98.5 (2002)	99

Source World Bank, World Development Indicators, 2004; Barbados data from Barbados Labor Market Information System at http://labour.gov.bb/blmis2/WEBDOC/trends/trenfore_ELFBHLOE.asp?stats=year and include TVET.

Note that in Jamaica, the ranks of the unemployed have swelled with secondary school completers. This may reflect the fact that even though more persons are completing secondary education, their actual achievement (in terms of CSEC passes) is low and they are not attractive to employers. Anderson hypothesized that these secondary completers refuse lower level work taken up by dropouts.

Table 1.9. Education level and status of Jamaican Workforce, 1991 and 1998 (%)

	1991			1998		
Education level	**Labor force**	**Employed**	**Unemployed**	**Labor force**	**Employed**	**Unemployed**
No secondary education	51.9	52.2	33.6	34.1	36.5	21.2
1-3 years secondary	8.9	8.0	14.0	14.9	14.2	18.6
4+ years secondary	39.1	36.8	52.4	51.0	49.3	60.2
Total	100.0 *N*=1,002,332	100.0 *N*=853,000	100.0 *N*=149,300	100.0 *N*=1,097,113	100.0 *N*=925,900	100.0 *N*=171,100

Source. Anderson (2000)

1.7 Technology Indicators

Countries in the region are far behind developed countries in access to computers and the Internet. A variety of initiatives are underway to increase access to technology, but according to the data the gap is quite wide both in terms of computers and Internet access.

Table 1.10. Computers per 1,000 persons

Countries	1998	1999	2000	2001	2002
Barbados	75	79	82	93	104
Dominican Republic	Data not available				
Guyana	24	25	26	26	27
Jamaica	39	43	46	50	54
St. Lucia	133	138	142	146	150
Trinidad and Tobago	47	54	62	69	80
United States	452	507	572	625	659
United Kingdom		210	264	330	423

Source: World Development Indicators database

Table 1.11. Internet users (per 1,000 people)

Country	1999	2000	2001	2002
Dominican Republic	11.5	18.6	21.59	36.5
St. Lucia	19.7	51.6	82.4	
Jamaica	23.5	31.0	38.5	229.2
Barbados	22.4	37.4	55.9	111.5
Trinidad	58.01	77.3	92.3	106.0
United States	367	441	501	551
United Kingdom	303	338	366	406

Source: World Development Indicators database

1.8 Training Systems and Labor Market Characteristics

In *Matching Skills to Markets and Budgets* (2000), Gill, Fluitman and Dar analyzed numerous countries and distilled common characteristics among groups of countries with implications for how the training system might best be oper-

ated. The main variables used in the analysis were labor force growth, employment growth and unemployment. They categorized countries according to the pressures facing their systems. A similar analysis of the countries being examined in this analysis reveals interesting differences. The results of the analysis are shown in Table 1.12 and Figure 1.3 below.

Table 1.12. Country Analysis According to Labor Market Conditions

	Barbados	Dominican Republic	Guyana*	Jamaica**	St Lucia**	Trinidad & Tobago
LF Growth 95-02	11.9%	20.5%	-5.1%	-3.0%	8.9%	24.3%
Employment Growth 95-02	20.2%		-2.3%	-1.3%	19.1%	23.8%
Unemployment 2002	10.3%	14.5%	9.1%	13.1%	16.4%	10.4%

Source: compiled by author from country data
*Guyana=2001
**Unemployment figures JA=2003; St L= 2000

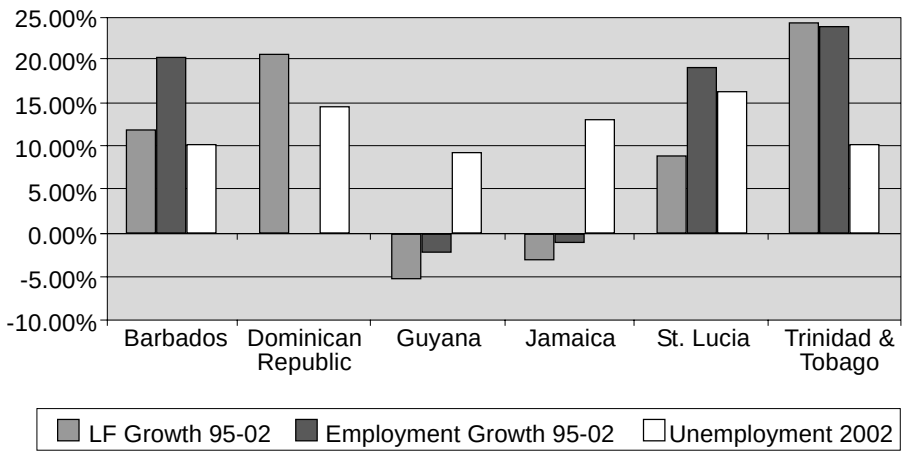
The analysis suggests that two countries, Barbados and Trinidad and Tobago, appear more like emerging market economies featuring both high labor force growth along with high employment growth and declining unemployment. In Barbados, employment growth exceeds labor market growth, while in Trinidad labor force growth is close to employment growth. One would expect that Barbados is experiencing labor shortages and may need to focus on worker upgrading and retraining. Trinidad would not be facing labor shortages, but would need to invest in worker retraining and upgrading.

The Dominican Republic and St. Lucia are somewhere between economies in transition to market and emerging market economies, mostly because they still have high open unemployment.

Jamaica and Guyana appear more like countries in transition to market.

According to this approach (see World Bank, 2000), the latter four countries could focus on reducing labor market participation among the young, possibly with education and training (which is keeping youth unemployment down in

Figure 1.3 Country Analyses According to Labor Market Conditions



Jamaica), while refocusing VET offerings toward the service oriented skills that are coming to dominate the newer job offerings.

1.9 An Overview of the Public Sector Training Arrangements in the Region

The public sector training arrangements within the region are quite variable. In the Dominican Republic there is a large national institution, *"Instituto Nacional de Formación Técnico Profesional"*—(National Institute for Vocational Training), or INFOTEP, founded in 1980, which operates and coordinates a large variety of training programs, and should be considered as accounting for most of the employment-oriented training in the country. This agency operates along the lines of other "apex" training institutions in Latin America, based on a training levy of one percent of payroll and one-half percent of workers' bonuses, and is located within the Ministry of Labor. These Latin American systems, after a period of decline in the late 1970's (Marquez, 2002) reformed themselves in more recent times, have operated effectively with a tri-partite structure, and have worked fairly well in terms of proper linkages to employers, especially for more traditional industries like manufacturing and construction. INFOTEP appears strongly connected to the Free Zones in the Dominican Republic, which have

served as an engine of economic growth in that country. The INFOTEP National Center is the keystone of the training delivery system, but a wide variety of collaborating centers in the regions are funded that serve the country, and the highest proportion of its training programs are offered within firms. INFOTEP has a variety of qualification pathways comprising different levels and modalities of training including basic training, further training, dual training with firms, and training for master technicians and instructors. Currently training capacity is projected to include about up to 180,000 persons per year.

Jamaica features a prominent apex agency, the HEART Trust/National Training Agency, founded in 1982 and financed by a three percent payroll tax, which has made it the dominant force in TVET in the country. The agency is not truly tri-partite in its governance, but is run more on political lines (Herschbach and Campbell, 2000) with a Board of Directors appointed by the Minister with a limited amount of industry and labor representation. The agency is located within the Ministry of Education, Youth and Culture (with a separate funding stream through the dedicated levy). HEART Trust/NTA both finances and operates training programs, but supports a large number of community-based projects, on-the-job training and in-plant training programs, and assists other training providers with various technical and financial supports, including Technical High Schools and Community Colleges. The levy also supports the National Council on Technical and Vocational Education and Training (NCTVET), a quasi-independent body that develops occupational standards, and provides the accreditation of institutions and certification of competency. Jamaica's training is mainly directed at unemployed young people, although an increasing number of older and working individuals are participating in training. A new technical framework for the organization of courses and certification has been introduced, which they are calling the "unit competency framework". This new framework (HEART Trust/NTA, 2004) is an important incremental step in achieving greater applicability of a standards-based approach, improving its flexibility and portability. Last year over 42,000 participants were enrolled, an increase of over 30% over 2002-03, and HEART's targets for 2004-05 are for 57,000 participants. Almost all programs feature 50 hours of information technology and 40 hours of entrepreneurship, and the training locations engage in income generating activities.

Both Barbados and Trinidad have fledgling national training entities in the form of the Barbados TVET Council, and the National Training Agency of Trinidad and Tobago (NTATT). These agencies arose from a consensus reflected in

the *CARICOM Strategy for the Development of Technical and Vocational Education and Training*, in the early 1990s. However, both agencies are small, and only control a portion of the funding for training, with large portions of public funding going to the community colleges and other tertiary institutions that offer most of the public sector sponsored training, and to other youth-oriented programs operated by other ministries.

The Barbados TVET Council reports to the Ministry of Labor and is supported by a one percent tax falling half on employers and half on employees, administered under the National Insurance scheme. This becomes the Employment and Training Fund (ETF) administered by the TVET Council. Barbados's training portfolio includes the Barbados Vocational Training Board for apprenticeship type training, the Samuel Jackman Prescod Polytecnic, a Skills Training Program, and the employment-oriented offerings of the Barbados Community College.

In Barbados the operation, financing and coordination of public sector training is dispersed between the Labor and Education Ministries and institutions operating within the latter. In general, the orientation in the Eastern Caribbean divides training between youth programs and tertiary education. Programs aimed at unemployed youth, while in operation, are less prominent than in Jamaica, and do not usually fall within the scope of the training agencies. This probably reflects the higher secondary achievement of school leavers there relative to Jamaica. The countries in the Eastern Caribbean may be able to treat skills training as a tertiary (as opposed to post-secondary) activity, because they have more qualifying candidates to select for training in a tertiary setting.

The NTATT in Trinidad does not have the benefit of a payroll levy and reports to the Ministry of Science, Technology and Tertiary Education (MSTTE), which actually oversees nearly all of the training programs, the bulk of which are part of the tertiary sector. Although the NTATT was set up to be the coordinating body for training in Trinidad and Tobago, it is emerging that the agency is being tasked with coordination of the lower levels of training for employment and being restricted to the trades and crafts. The largest training institutions include the John Donaldson Technical Institute, the San Fernando Technical Institute, and the Metal Industries Company (MIC); these are operated via the MSTTE under the umbrella of the College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT), with a tertiary education orientation. A major youth training program, the Youth Training and Employment Part-

nership Program (YTEPP) is operated by the MSTTE as well. National Youth Development Apprenticeship Centers, previously called Youth Camps, are used for vocational training, but are operated by the Ministry of Sport & Youth Affairs, with five centers located throughout Trinidad and Tobago. A new On-the-Job training program was launched this year, and the country is introducing a formal apprenticeship program and a new program for retraining of workers, all via the MSTTE. Trinidad is also planning the expansion of the programs organized by the National Energy Skills Center and the Trinidad and Tobago Institute of Technology. Curiously, there is a move afoot in Trinidad & Tobago to revive the National Examinations Council for the certification of post-secondary and tertiary level vocational and technical offerings under COSTAATT. This would appear to be a departure from the approach based on occupational standards promoted by the NTATT, which uses employer input to determine the content of courses and competency-based assessment methods. SERVOL is an important NGO that operates both youth training and youth development programs in an interesting combination that is appropriate for the many disadvantaged youth; SERVOL receives government support for salaries, but also engage in fund raising and income generating projects.

St. Lucia has recently established a National TVET Council, and has in place one set of training programs aimed mostly at unemployed youth, the National Skills Development Center (NSDC) and a National Enrichment And Learning Program (NELP) aimed at low-income adults, and additional training at the community college for those who qualify for tertiary admission, and, like Barbados and Trinidad, is more oriented toward training as a tertiary activity at the Sir Arthur Lewis Community College (SALCC). Training activities are generally under the Ministry of Education, Human Resources, Culture and Sport. Public sector training is financed from the central budget without any dedicated tax.

The national training entities of Jamaica, Barbados, and Trinidad and Tobago have shared a commitment to a common framework being called National Vocational Qualifications. This approach is based on the British NVQs and is based on a hierarchy of occupational levels from one to five, and uses occupational standards as the basis for training curriculum. Jamaica's new, revised approach is based on the Australia and New Zealand adaptation of British NVQs and is resulting in greater part-time participation and decentralization in its (formerly centralized) approach to competency assessment. This common approach led to a Memorandum of Understanding in 2000 (which also included the Or-

ganization of Eastern Caribbean States Education Reform Unit (OECS/OERU), followed by a Memorandum of Association (MOA) in 2003. These agreements call for sharing of standards and mutual recognition of qualifications. This agreement can be the basis for the enabling of the free movement of skilled labor under the Caribbean Single Market and Economy (CSME). The MOA established the Caribbean Association of National Training Agencies (CANTA), and establishes a technical footing to develop a Caribbean NVQ (CNVQ) that would be recognized across the region.

2. Stylized Facts on Training in the Caribbean

2.1 The Prevalence of Training

In order to learn how many workers receive training, both national statistics and firm surveys were examined. National statistics collected via labor market surveys and household surveys on how many workers receive different kinds of training are not standardized across the region and tend to mix education and training. The best data found are studies of the behavior of firms. The World Business Environment Survey (1999) describes percentages of firms who provide training for four Caribbean countries as shown in Table 2.1. Bearing in mind that this information is now rather dated, it shows the Dominican Republic at the forefront of the Caribbean countries included in that study. Studies commissioned for the World Bank in 2003 in Jamaica (Market Research Services Survey, 2003) showed over 90% of Jamaican firms provide training.

Table 2.1. Percentage of Firms Providing Training

Country	**Firms providing training**
Trinidad & Tobago	41%
Haiti	54%
Dominican Republic	**85%**
Belize	65%
Jamaica	**>90%**
Average	67%
LAC Region	75%

Sources: World Business Environment Survey, 1999; Jamaica data: Market Research Services Survey (2003), Marquez, (2002)

Márquez (2002) observed the regional pattern for the LAC group and reported the following, which included several Caribbean countries. Training practices among firms in Barbados and Jamaica are further described in section 2.3.1.

> *"…the percentage of firms in the region that train their workers is not too different than the one in the US and Canada … Three out of four firms in the region do train their workers, and firms that have recently introduced some innovation (be it in products or processes) are almost 30% likelier to train than firms that have not innovated[1]. Firms in the services sector are 5% more likely to train, and small firms are fully 25% less likely to have some kind of training program. Foreign firms are slightly more likely to have training programs, while family owned firms are less likely to do so. Though older, more established firms are more likely to train, this effect is minor relative to the other effects studied in the survey. This pattern of incidence of training according to firm characteristics is very similar to the one described in the literature about developed countries that we examined above. When looking at workers, the pattern of training by skill level looks very similar to that revealed in the literature on developed countries: the more educated and skilled workers are the ones which firms train the most and for longer periods…"*

In the national statistical data, little clear data are available on how much of the workforce has received training, except for Barbados, Jamaica and Trinidad,

Table 2.2 Trained Workforce Statistics

Type of Training	Barbados	Jamaica	Trinidad & Tobago
Vocational	3.1%	7.51%	54.5%
OJT & Apprenticeship	Not reported	6.16%	Not reported
University	27.8%	9.65%	5.8%
TOTAL	30.9%	23.3%	60.3

Source: ESSJ-PIOJ 2003, Barbados Statistical Unit 2001, Trinidad Central Statistics Office

and this too, appears to mix training and education. The Trinidad figures include individuals with only a primary education who have received some training. About 57% of those shown as receiving vocational training are in this group, and this may give an incorrect impression of the level of training in the workforce.

2.2 The Kinds of Training Provided for the Workforce

2.2.1 Public Sector Offerings

The kinds of public sector training provided is indicative of the policy objectives of public training discussed in section 5.3. In general, six different kinds of training are offered through public sector programs, but clearly not all types exist in all countries. These can be defined as (1) youth training, (2) vocational training in an institution, (3) traineeship, (4) traditional apprenticeship, (5) further enterprise-based training and (6) training in community colleges. These are summarized below in Table 2.3.

Most countries have a youth training capacity aimed at those with low secondary achievement or at those who can benefit from a transition device from the secondary school into the labor market. These vary in length from three months up to one year, and the curricula may cover both soft skills and some basic skills training. These youth oriented centers offer courses in construction, hospitality, business, etc. but at a basic level. In some instances these centers suffer from low capital expenditure and equipment may not be at an industry standard.

In Jamaica and the Dominican Republic youth are accommodated as part of the regular vocational training system, although the Dominican Republic allows entrance to the system at 15 plus and Jamaica is nearly all 17 plus. In Jamaica HEART finances several programs for the Ministry of Education and Social Development commission that have a more distinct youth orientation.

Vocational training in an institutional setting is offered in all the countries at a basic level, producing a semi-skilled worker who can become fully skilled with further experience and training on-the-job. However, the length of this training also varies from as low as three months to about one year. In some specific instances training is longer than one year.

Some more specialized institutions produce a somewhat higher level of worker including the tertiary level training institutions in Trinidad like the John Davidson Technical Institute or Metal Industries Company, and the National

Tool & Engineering Institute, Jamaica German Automotive School and Caribbean Institute of Technology in Jamaica. INFOTEP provides institution-based training in over 80 collaborating centers in addition to its central training facilities *INFOTEP Centro* (one in each region). The institutional training capacity of INFOTEP covers a wide spectrum combining traditional education and training institutions, youth socialization, and community-based centers, with wide-ranging offerings from traditional skills like construction and welding to commercial/business skills, tourism and hospitality, and, increasingly, information technology.

Traineeships recruit qualified school leavers for on-the-job training in firms; Jamaica has had a relatively successful traineeship program for 20 years, judging by absorption rates of 70-85% of trainees by the firms to which they were assigned in this two-year program that eventuates in a Level 2 certification. The Jamaican School Leavers program awards a modest tax break to the participating firms. Trinidad is launching a traineeship program this year for 5,000 youth of six months' duration with a stipend paid by the state, as is St. Lucia.

Traditional Apprenticeship is offered in the Dominican Republic and Jamaica with the typical longer duration of the training period. Apprenticeship numbers in Jamaica have declined significantly in recent years, although an important partnership with a bauxite company has been training apprentices with great success for several years.

"Further training in enterprises" is an important offering for workers who have received basic training to become independent skilled workers or technicians. This kind of training is mostly available when firms partner with institutions operated in Jamaica and the Dominican Republic, which make more allowance for further training.

Finally, the community colleges are important providers of skills training in Barbados, Jamaica, St. Lucia and in Trinidad & Tobago where the major skills training institutions are organized under the College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT).

The analysis suggests first, that some programs look very short in duration. Given the educational deficits of a significant portion of the target population, the three to six month programs aimed at disadvantaged youth may be too short to overcome the deficits the target population brings to the training situation. When the increasing need to provide further educational content, as well as both information technology skills and entrepreneurship skills is added to the equa-

Table 2.3 Kinds of Training Provided by Public Sector Programs

Program	Barbados	Dom Rep	Jamaica	St. Lucia	Trinidad
Youth Training Programs	BYS—3 months BYES—6 months	At INFOTEP; "Youth" programs same as basic vocational training	Community- based training, MOE marginal institutions and SDC	NELP-5 months Vieux Fort Post-secondary	YDAC Centers-one year; (Ministry of Social and Community Development). SERVOL-3 months— High Tech centers; to 6 months for skills training
	No figures available		7,982 18.6%	1,506 +157 45%	1,325 + 4,203 23.1%
Basic Vocational Training in a Center	S J P P - 3 months – 2 years BVTB 3-9 months	INFOTEP—Qualification-"habilitación"	HEART Academies and Vocational Training Centers 6-12 months	National Skill Development Centers—six months	YTEPP-six-nine months Retraining Unit of MSTTE trains to Level 2 Government Vocational Center (GVC)
	1,050 71%	37,756	19,762 46.2%	887 24%	Estimate 11,000 46%
Traineeship	None	None	2 years	New YAP: 500 and set to increase, paid EC$800 by gov. and $400 by employer, length not stated; 3 year tax credit for hiring	NOJTP—Six months, target of 5,000; gov. to pay 50% of wage
			4,821 11.3%	500 13.5%	5,000 20.9%

Program	Barbados	Dom Rep	Jamaica	St. Lucia	Trinidad
Formal Apprenticeship	BVTB	Dual Training	3-5 years	None	New for agriculture
	426 29%	467 .03%	733 1.7%		1,100 4.6%
Further Training in an Enterprise	BTVETC-short courses	Complementary training; continuing training in centers	1 year increments in centers or in cooperative training, or customized programs	None	None
	No figures available	115,528 + 1,184 75.6%	4,574 + 705 12.3%		
Community Colleges & tertiary institutions	BCC-Certificate or diploma 5 courses one year; three courses two years Associate Degree—2 years	None	One and two year programs in community colleges and certificate programs at UTECH	SALCC: One-two years	JSTDI and SFDI are part of COSTAATT; ECIAF, MIC
	No figures available		315 + 934 9.9%	644 17.4%	Estimate 1,301 5.4%

Source: Compiled from various sources by author

Notes: NELP is not exclusively youth oriented, but is aimed at the disadvantaged and includes adults; figures for INFOTEP at "further training in an enterprise" rely on Table 2.4, but note that Table 2.7 shows 62,401 trained in firms.

tion, it appears that the training periods in many jurisdictions may not be long enough to achieve the objectives of providing enough skills development to succeed at employment, and to impact on productivity.

The relative lack of higher-level training and further training that articulates with lower levels of training is also a deficiency. The further training and advanced training is critical to productivity improvement. It has taken Jamaica over ten years to see a meaningful increase in the proportion of higher-level vocational training it delivers via HEART Trust.

The shortage of higher-level training often reflects difficulties that vocational training agencies have with recruiting and retaining an instructional cadre trained to sufficient levels to deliver higher-level training, and related difficulties in fashioning programs for the higher levels. The financial compensation concepts that apply to basic vocational instructors are different from those applying to engineers, architects and other professional personnel needed for more advanced training.

INFOTEP offers training according to the different pathways (See Table 2.4) including: "complementación" (Complementary Training) for those ages 16 and over with previous training and experience (73.8% of output); "habilitación" (Qualification) for those ages 16 and over with no prior training or experience

Table 2.4 INFOTEP Courses and Output by Type of Training, 1996-2001

Year	Total	Complementary Training		Qualification		Dual Training		Continuing Training in Centers		Master Technician	
		Output	%	Output	%	Output	%	Output	%	Output	%
1996	58,488	39,820	68.1%	18,195	31.1%	459	0.8%	-	0.0%	14	0.0%
1997	77,290	55,163	71.4%	21,751	28.1%	342	0.4%	-	0.0%	34	0.0%
1998	92,656	69,862	75.4%	22,394	24.2%	344	0.4%	-	0.0%	56	0.1%
1999	125,322	95,383	76.1%	29,595	23.6%	312	0.2%	-	0.0%	32	0.0%
2000	149,122	108,108	72.5%	40,676	27.3%	296	0.2%	702	0.5%	42	0.0%
2001	157,031	118,528	75.5%	37,756	24.0%	467	0.3%	482	0.3%	280	0.2%
TOTAL	**659,909**	**486,864**	73.8%	**170,367**	25.8%	**2,220**	0.3%	**1,184**	0.2%	**458**	0.1%

Source: INFOTEP Website

(25.8%), "Dual training" for 14-22 year olds with minimal training (0.3%); master technician programs for those 22 and over, "capacitación permanente" (permanent training, no percentage quoted) and "formación continua en centro" (Continuing training in centers, 0.2%). Note the increase in the amount of complimentary training and continuing training beginning in 2000, and growth in Master Technician training. Enrolment in 2002 was 157,031; projected enrolment in 2004 is 180,000. Given the rather low numbers of participants in the categories of continuing (further) training in centers and master technician, it appears that INFOTEP has also struggled with implementing the higher levels of vocational training.

Training programs in INFOTEP are listed and advertised by courses rather than by how to achieve a qualification, but have the advantage of being listed by hours. Courses are modular, but appear somewhat shorter in duration than is typical in the region[2]; major components are 225-250 hours in duration, and additional elective courses are taken. Most offerings at centers are part-time with courses set for two to four hour sessions, five days per week; these courses last approximately four months, and in this way can accommodate working individuals.

Table 2.5 shows training activities by occupational area and the following average hours for some of the larger training areas:

Table 2.5. Duration of a Sample of INFOTEP Courses

Course	Duration
Dress Making	152 hours
General Mechanics	398 hours
Welding	251 hours
Vehicle Maintenance	331 hours
Electrical Maintenance	234 hours
Bar & Restaurant Service	134 hours
Computer	38 hours

Source: INFOTEP Website

2 They appear shorter than in Jamaica, the only other country using hours, because Jamaica requires up to 100 hours in IT and entrepreneurship.

In Jamaica, HEART Trust/NTA and its certification and accreditation arm, the NCTVET, are using a concept of "nominal hours"[3] for each qualification. These hours are based on earlier experiences with the duration of training programs, but adopted into the new certification framework (Table 2.6). Course durations are variable. In general, the higher the level, the longer the course, with level three programs approximating diploma programs in the regular tertiary sector. Jamaica has very little programming at Levels 4 and 5, with a Level 4 offering for master craftsperson at JAGAS and a Level 5 bachelor's degree offering for TVET instructors.

Table 2.6 Duration of a Sample of HEART Trust/NTA/NCTVET Courses

Course	Duration
Call Center Operation Level 1	470 hours
Motor Vehicle Engine System Level 1	435 hours
Electrical Installation Level 1	275 hours
Welding Level 2	480 hours
Web Page Designing Level 2	375 hours
Food & Beverage Supervision Level 3	885 hours

Source: NCTVET standards in Jamaica

In Barbados, Trinidad and Tobago and St. Lucia, training programs are quite variable in duration, ranging from three months to five and six months and then to one year, reflecting the probable absence of real standards for entry-level employment training programs. The comments about short programs mentioned above apply mostly to these kinds of programs. The real training in these countries appears to be in the educational institutions, and perhaps in YTEPP in Trinidad.

3 The use of nominal hours of training is an adaptation of how they calculate in Australia how long training should be, and what it should cost. Using nominal hours will assist HEART to finance providers not currently in the system and can serve as a basis for competitive bidding at some point in the future.

2.3 The Location of Training

The Dominican Republic (See Table 2.7) basically doubled its output of trained individuals over the years from 1997 through 2001, no doubt aided by receipts from the training levy. INFOTEP provides an example of how a national training agency can diversify the providers of training and use state financing to concentrate the training in firms. Over the five-year period from 1997 until 2001, over 43 percent of its training output involved training in firms, which most would agree is the most likely to raise productivity. INFOTEP "fixed centers" account for only 12.7 percent of output, while "collaborating" centers and community programs account for 43.8 percent of output. Note that Collaborating Centers include 81 non-INFOTEP operated institutions and NGOs and comprise about one-fourth of output over the past five years and increasing to 31.5% for 2001 indicating an increasing reliance on partnership to increase access to training. For the latest year reported, fixed centers comprise 13.3 percent, collaborating centers 31.5 percent, community programs about 15 percent and programs in firms 39 percent, showing a trend of increase in training in fixed center and collaborating centers and decreases in community programs and programs in firms.

Table 2.7 INFOTEP Output[4] by Type of Location

Year	Total Output	Fixed Centers		Collaborating Centers		Community Programs		Programs in Firms	
		Output	%	Output	%	Output	%	Output	%
1997	77,290	9,404	12.2%	16,975	22.0%	19,136	24.8%	31,775	41.1%
1998	92,656	11,883	12.8%	16,462	17.8%	23,331	25.2%	40,980	44.2%
1999	125,322	15,433	12.3%	27,716	22.1%	22,437	17.9%	59,736	47.7%
2000	149,122	18,419	12.4%	37,063	24.9%	27,672	18.6%	65,968	44.2%
2001	157,031	21,575	13.7%	49,420	31.5%	23,635	15.1%	62,401	39.7%
TOTAL	601,421	76,714	12.8%	147,636	24.5%	116,211	19.3%	260,860	43.4%

Source: INFOTEP website

4 Note that figures for INFOTEP are quoted as outputs, while data for other countries use enrolments.

Short Courses at INFOTEP have benefited 353,687 participants from 1982-2002, about 37% of all enrolment over the years were enrolled in short courses such as seminars, courses with companies, training of supervisors and trainers, and training in audio-visual production. Male involvement in these courses is 57.6%.

It was not possible to ascertain the size of the non-INFOTEP training provisions in the Dominican Republic.

In Jamaica, the public sector training of HEART Trust/NTA includes institution and center-based training, on-the-job training, and training in a variety of community-based programs. The total enrolment of HEART Trust/NTA has been rising the past two years after an earlier period of growth that slowed in 1998. Enrolment in 2002/03 was 37,000 and rose to 42,000 in 2003/04, with 57,000 projected for 2004/05. This reflects increasing capacity utilization at its centers and the implementation of more part-time courses. There are numerous private training providers in Jamaica as well, some involved with HEART Trust/NTA and some not; a 2004 survey of private providers provided a conservative estimate of at least 10,000 additional spaces in the private training market. Table 2.8 summarizes Jamaica's current capacity.

HEART Trust/NTA has trained 198,000 since 1982 (the workforce is about 1.1 million -equivalent to about 18 percent of the size of the workforce).

It is important to note that both HEART Trust/NTA and INFOTEP provide consultative services to firms, especially directed toward improving productiv-

Table 2.8 Training Enrollments by Location in Jamaica

Centers	Community	OJT	Educational Institutions	Total Capacity
28,249 HEART	6,681 HEART 1,302 (SDC & MOEYC)	6,260, plus training provided by firms w/o govt. support; 90% of firms say they provide training	Community Colleges, UTECH, Private providers- at least 10,000 enrolled	52,492

Source: HEART Trust/NTA

ity. INFOTEP uses a consultant's office for the measurement and improvement of enterprise productivity, while at HEART Trust/NTA this function resides in the Workforce Improvement Unit. Both units provide training needs analysis and design custom training interventions for firms. At HEART Trust/NTA some cost sharing is included in the arrangements, while the levy-grant scheme comes into play at INFOTEP.

Table 2.9 HEART Trust/NTA Enrolment by Program Type

PROGRAMME	ACTUAL ENROLMENT 2003-2004							
	Level 1	Level 2	Level 3	Level 4	Joint & Other Certification	Competencies (Full NVQJ and Units-part	Total	%
Academy Institutions:	4,223	3,176	1,385	13	3,608	3,193	15,598	36.7
Vocational Training Development Inst.			1,732	1247			2,979	7.0
Vocational Training Centers	2,473	934			2,715	3,550	9,672	22.8
Special Programs-External Providers	3,835	76	-	-	2,466	304	6,681	15.7
MOEYC "Marginal" Institutions					899		899	3.1
Social Development Commission					402		402	
School Leavers' – Traineeship	4,821						4,821	14.7
Apprenticeship Program		733					733	
Workforce Improvement Program					694	11	705	
TOTAL	15,352	4,919	3,117	1,260	10,784	7,058	42,490	100
(Percent Enrolment by Level)	36.1%	11.6%	7.3%	3.0%	25.4%	16.6%	100%	

Source: HEART Trust/NTA

In contrast to INFOTEP, at HEART Trust/NTA, 66 percent of enrolment is in its own institutions, a total of 18.8 percent through other providers, and 14.7 percent on-the-job (See Table 2.9 above). The MOEYC Marginal Institutions and Social Development Commission programs are government-operated comprising 3.1 percent, while Special Programs-External Providers, a category including mostly community-based training, but also some sponsored programs in industry-oriented training programs and community colleges, accounts for 15.7 percent.

The analyses above can be summarized to show the proportions of training provided directly by the apex organizations in Jamaica and the Dominican Republic as shown in Table 2.10.

Table 2.10 Distribution of Enrollments in Training by Type of Provider in Apex-funded Training Countries

Country	Provider		
	Own Provision	Private training institution (or others)	In Firms
Jamaica (HEART) 2003-04	66.5%	18.8%	14.7%
DR (INFOTEP) 2001	13.7%	46.6%	39.7%

Source: Compiled by author

It was not possible to collect up-to-date information on many programs in Trinidad and Tobago. A World Bank study in 2000 on *Youth and Social Development*, however, provides an analysis of training provisions in the country. The analysis herein borrows heavily from that study. The main youth training and employment programs in Trinidad and Tobago (Table 2.11) together reach up to 18,000 participants annually at a cost of about TT$50m. The most important of these programs include:

- The *Youth Training and Employment Partnership Program (YTEPP),* a limited liability company established and funded by government, now within the MSTTE;
- Junior Life Centers, Adolescent Development Community Life Centers, Skill Training Centers and Hi-Tech Centers operated by the NGO *Service Volunteered for All (SERVOL);* and,
- *Youth Development and Apprenticeship Centers (YDACs)* (former youth camps) run by the Ministry of Social and Community Development.

Since its inception, YTEPP has offered courses through 29 part-time, school-based centers, 5 full-time centers, and various community-based programs around the country. On average, the program has accepted around 5,000 students per cycle, of which 3,000-4,000 have normally graduated. A total of almost 50,000 clients have graduated over the course of time. In recent times YTEPP began operation of two computer-training buses for mobile training.

Service Volunteered for All (SERVOL) is a private, partially self-financed NGO that targets training to different segments of the youth population through several types of programs: Junior Life Centers (10), Adolescent Development Community Life Centers (20), Skill Training Centers (12) and Hi-Tech Centers (3). SERVOL started working with adolescents in the first Skill Training Center in 1971, and now 12 centers train around 1,600 youths per year in a variety of courses. These include auto mechanics, beauty culture, catering, childcare, garment construction, home health assistance, masonry, plumbing, printing, small appliance repair, welding, woodwork, etc. It may be wise to think of the Junior Life Centers and Adolescent Development Centers as youth development programs rather than training programs, however.

The government introduced five Youth Development and Apprenticeship Centers (YDACs), formerly known as Youth Camps, between 1964 and 1976. The original strategy was to attract at-risk youths from poor backgrounds to live in the centers for two years and provide them with a positive developmental experience, which involved the adoption of positive values, education (mostly remedial), and basic skills training (primarily in agriculture, construction and domestic/commercial activities). The centers accommodate about 200 trainees each, of which 150 are residential.

According to the 2000 World Bank report, the YDACs have various limitations. Their basic character was described as interventional, institutional and impersonal. Their costs have been high at TT$15,000 per youth (US$ 2,400), and

Table 2.11. Main Characteristics of Youth Skills Training and Employment Programs in Trinidad & Tobago

Program	Age Range	Number of Centers	Training Duration	Skills Provided	Stipend/ [Fees]	Beneficia-ries/Year	Expenditure
YTEPP	15-25	over 20 school-based and 5 full-time centers	6 months	numeracy, literacy, life skills, 70 skills courses in 14 occupational areas, preparation for micro-enterprise	None	10,000	• TT$30m/ year • TT$1,200/ student/ cycle
SERVOL							
• Skill-training	16-19	12		numeracy, literacy, life skills and attitudinal development, skills courses, technical training in computers and electronics	[TT$50/ month]	(1999 data)	• approx. TT$4m/ year
• Hi-Tech		3	6 months			1,672	
• Junior Life	"	10	3 months			384	
• Adolescent Development		20				448 1,699	
YDACs	14-21	5 (1 in Tobago; I for girls)*	2 years (residential) several months (trade centers)	preparation for exams, primary school leaving certificate, trades training (agriculture, construction, domestic and commercial sector), job placement	$TT45/ month; housing and meals	1,325 (250 girls; 750 boys, residential program) 325 (trade centers)	• TT$17m/ year • approx. TT$15,000/ Youth/ year
TOTAL	**15-25**	**75**	**3 months to 2 years**			**16,521**	**TT$51M**

Source: Trinidad and Tobago, Youth and Social Development, World Bank, 2000

they have been under-equipped. Government has been trying to broaden the appeal of these centers.

Table 2.12 Trinidad & Tobago Enrolment by Category

Centers	Community	OJT	Educational Institutions	TOTAL CAPACITY
YTEPP 5 NYDA Centers-capacity unknown	YTEPP-8,000-10,000 (in 2000) SERVOL-1.600	NOJT Program-5,000 planned 41% of firms provide training	JSDTI-626 SFTI- Cannot compute-missing data MIC- Cannot compute-missing data GVC- Cannot compute-missing data Over 500 private training providers registered	At least 18,000; Cannot compute-missing data

Source: Compiled by author

A 1999 government report recommended the strengthening of the training and concentration in the following areas: agriculture, agro-industries, and food processing; light manufacturing; micro-enterprise; services (including information technology); and tourism. It also advocated a new management structure with an autonomous Board of Management that would report to the Minister, similar to arrangements under YTEPP (a limited liability company). Another goal was to establish more income generation from productive activities and an incentive structure to replace the current resident stipend, except in the most-needy cases. The extent of implementation of these recommendations was not ascertained for this analysis.

There are many private sector initiatives in youth training that fit into two broad groups. First, some private sector training is profit-oriented, small-scale and not regulated by government. Over 500 institutions are registered with the Ministry of Education as providers of technical and vocational training. Few have been through any process of accreditation or validation. Second, some of the larger companies have established skills development programs for youths in

order to improve the human resource base in their respective industries. These largely provide a higher level of training and benefit youths with a better educational background. The following examples give an idea of the second type of training:

- The National Gas Company (NGC) supports the government's training program in the energy sector, through the Ministry of Energy, and in cooperation with other companies. The National Energy Skills Development Program, which replaced an old apprenticeship program, provides scholarships, training and company placements. This program is industry specific, takes advantage of the capacity of companies in the sector and aims to meet their skill needs.
- Royal Bank, through its Royal Bank Institute of Business and Technology (ROYTEC), established a training program in 1987 because of its dissatisfaction with school leavers' skills, especially their attitudes and work ethic. The original two-week course provided an introduction to business and personal development. Soon it evolved into a seven-month program encompassing training in economics, accounting and marketing. Today, more than 35 companies send trainees to participate. So far, over 1,000 students have graduated. ROYTEC is also involved in setting up computer labs in schools through an alliance with Industry Canada (Canada's SchoolNet), and it can equip a lab for TT$45,000 (US$ 7,200).

In St. Lucia there are three public sector programs aimed at training for employment. The **National Skills Development Center** had an output of 550 trained individuals based on an enrolment of about 887. The **National Enrichment and Learning Program** (NELP) has been in existence for almost four years and had 1,506 last year. The total number of NELP centers increased from 8 in 2001/02 to 11 in 2002/03 and these are distributed in eight communities in the island. A total of 842 learners were enrolled in Phase 1 of the program, 73% of which were females. A total of 664 learners were enrolled in Phase 2 of the program, 79% of which were females. Thus, a total of 1,506 learners participated in the program in 2002/03, a slight increase over 2000. In 2001-02, a total of 411 learners graduated from Phase 1. Finally, the Sir Arthur Lewis Community College (SALCC)) offers a variety of employment oriented programs and enrolled about 644 in 2001 in technical and vocational courses. A new on-the-job training program targeting 500 trainees was launched this year with cost sharing between

government and the firms to provide a training wage to the participants. See Table 2.13.

2.13 St. Lucia Enrolment by Category

	Centers	Community	OJT	Educational Institutions	TOTAL
St. Lucia	NSDC-887 (2002-03)	NELP-1,506 (2002-03)	Target 500	SALCC-644 enrolled in 2001 in TVET courses; Vieux-Fort Post Secondary-157	3,694

Source: Compiled by author

Barbados reports a total output of 1,050 in Samuel Jackman Prescod Polytechnic and an output of 426 from the BVTB, for a total of 1,476 (not including the amount in TVET-oriented offerings at the Barbados Community College which could not be ascertained).

Table 2.14 provides a comparison among the countries in terms of the ratio of the number of public training places to the working age population showing Barbados with one space for every 131 persons, Trinidad and Tobago with one

Table 2.14 Public Training Spaces to Working Age Population

Country	Working Age Population (15-64)	Public VET Spaces	Ratio
Barbados	194,070	1,476	131.5
Dominican Republic	5,334,000	157,000	34.0
Jamaica	1,739,917	42,490	40.9
St. Lucia	103,219	3,694	27.9
Trinidad & Tobago	961,800	18,000 (Low estimate)	53.4

Source: Compiled by author

space for every 53 persons, and the DR, Jamaica and St. Lucia at one space for every 33-36 persons. The Barbados and Trinidad figures are incomplete however, so the true statistic is somewhat higher than what appears.

2.3.1 Training in Firms

As noted above, firms in the region are relatively active in providing workers with training, although the figures on training in firms for Trinidad and Tobago, even though dated, are cause for concern. The training in firms is fundamentally different from the public-sector institutional offerings. Training in firms is almost entirely short-term and rather closely linked to work routines and tasks.

The data already establish that INFOTEP is providing a considerable proportion of its programs within the firms themselves. As of 2001 over 2,650 firms have benefited. INFOTEP uses an Enterprise Service Consultant office to design and implement productivity measurement and improvement programs, and to define and implement qualification plans in the enterprises.

Barbados TVET Council conducts training with firms using the Employment & Training Fund (ETF), charging the applicants 25 percent of the cost and has supplied training in such skills as:

- Skills training in the construction industry for artisans
- General management training for small farmers in agriculture
- Upgrading the mechanical maintenance skills of sugar factory workers
- Computer application courses for small business managers
- Information Technology courses for unemployed persons
- Customer relations training for workers in the retail, petroleum products, restaurant, hotel, beer and soft drink industries
- Supervisory training for foremen and small contractors in construction
- Solar Photovoltaic systems maintenance
- Geographic/Land Information Systems management
- Training of workers for the Hotel Industry Program (H2B Visa) - U.S.A.
- Customer relations training for Public Service Vehicle operators

Numbers of participants could not be ascertained for the TVET Council programs.

Jamaica, Trinidad and Tobago and St. Lucia all have on-the-job training programs, and HEART offers a consultative service to firms to plan and implement customized training programs in firms on a cost-sharing basis with firms usually paying for the instructional costs. Also in Jamaica, special programs are financed to enable in-plant training, especially in start-ups in, e.g., information and communications technologies.

Three studies, two in Jamaica and one in Barbados, provide more detailed information about the kinds of training provided by firms.

In Barbados, Ashton (2000) found that larger firms are more likely to provide training; 66.5% of larger firms train compared to only 40.4% of small firms and 55.8% of medium size firms. In addition, Ashton also found that, according to the modality of training, 98% of firms indicate they use on-the-job training, 65% use conferences, 64% use formal education, 62% provide coaching, 49% video training, 34% computer-based training. A total of 94% of firms reported using external training programs. Just over 60% of Barbadian enterprises say they provide most employees with five days of training per year, with even more firms in finance and public administration (>70%) saying they provide at least this amount. Further, 94% support external courses, 91% supply books and manuals, 80% hire consultants to supply training, and 47% invest in an internal training infrastructure. In Barbados, about one half of firms said they want to increase training expenditure. Half of the firms provide training leading to formal qualification for managers, professional and white collar workers, but only 26.8% for manual workers. Larger organizations are stronger on this, especially for manual workers (52.8% for manual against 48.6% for managerial staff in larger firms).

Ashton found that most training in Barbadian firms is determined by requests from supervisors (74% of the time) rather than from some kind of formal training needs analysis such as business plans (49%) or training audits (32%).

In 2003, the World Bank commissioned a study in Jamaican firms that found the following:

- Over 90% of firms provide training
- 84% of firms report sending workers on short courses
- 80% send employees to conferences and seminars
- 38% support long-term formal training
- 27.5% report providing apprenticeship training (whether formal or not) (Market Research Services, Ltd., 2003).

Over ninety-percent of Jamaican firms surveyed provide opportunities for employee upgrading, primarily as a mechanism to complement existing skills and competencies, rather than to compensate for competency shortcomings. Sixty-two percent of organizations provide education and training opportunities to complement existing competencies while 21 percent report that education and training is used primarily to compensate for competency shortcomings.

The focus of most upgrading is job-specific training. This is true whether the objective of training is compensatory or complementary. Sixty-seven percent of firms that use training programs to compensate for skill and competency shortcomings focus on job-specific training. Similarly, 44 percent of employers offer job specific training as the principal means by which they seek to complement existing skills and competencies that employees bring to the workplace.

The most common areas of training involve basic and advanced job related skills. However, considerable emphasis is also given to personal development and academic upgrading. Fewer firms provide opportunities for remediation or training in quantitative reasoning or problem solving; however, one in five employers provide academic remediation and almost one-third support academic upgrading. (Table 2.15)

Table 2.15 Training Provided by Private Employers in Jamaica

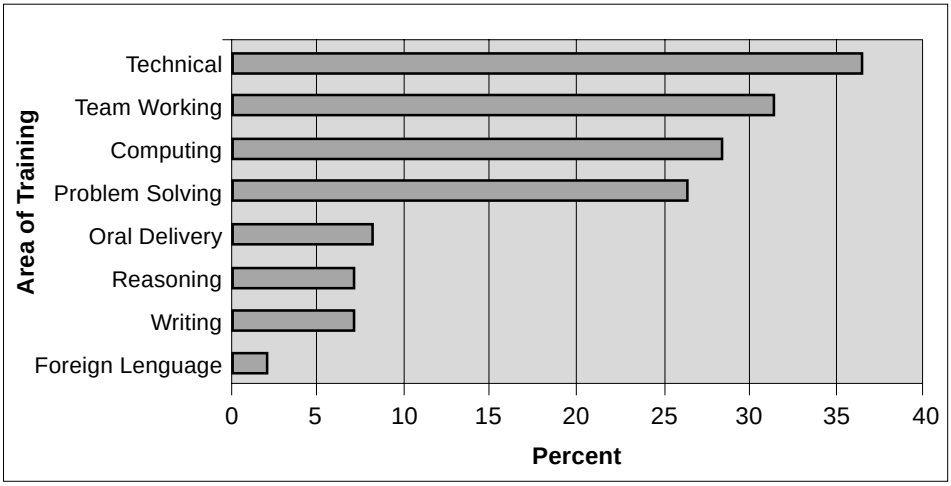
Area of Training	Percent
Basic Job Related Training	93.9
Advanced Job Related Training	68.7
Personal Development	47.5
Remedial	21.2
Academic Upgrading Leading To Certification/ Accreditation	45.5
Quantitative Reasoning/Problem Solving	31.2

Source: Market Research Services, Ltd., Jamaica Business Survey, World Bank, 2003.

The most common skills for which training is provided arte technical training, team work, computing and problem solving. Despite the fact that foreign language was identified as one of the common shortcomings, very few organiza-

tions have actually attempted to provide training in this area for their employees. (See Figure 2.1).

Figure 2.1 Percentage of Employers That Provide Training by Area of Training



Source: Market Research Services, Ltd., Jamaica Business Survey, World Bank, 2003.

Firms rely on internal training provided both by persons employed to the organization and by trainers from the outside, except for academic upgrading where the emphasis is on external provision. Satisfaction with training investments appears to be generally positive. Almost 80 percent of firms indicated satisfaction with investments in training.

Blank (2003) noted that it is impossible to quantify either the numbers who are trained or the magnitude of training, but both appear to be substantial (Table 2.16). Further, employers bear a significant share of the training costs. Almost 65 percent of the firms that participated in the business survey indicated that they fully subsidize the costs of training. Less than 10 percent of firms ask employees to finance more than 50 percent of the costs of the upgrading. Interestingly, smaller firms were more likely to provide full subsidies, while larger firms were more likely to partially subsidize employee-training costs.

Table 2.16 Percentages of Employees Trained by Area of Training

	Area of Training (Jamaica)					
Number Of Employees Trained	Basic Job Related Training N=85	Advanced Job Related Training N=43	Personal Development N=35	Remedial N=30	Academic Upgrading N=10	Quantitative Reasoning/ Problem Solving N=24
	%	%	%	%	%	%
1-5	35.3	32.5	22.8	16.6	70.0	16.7
6-10	9.4	9.3	14.2	6.7	-	-
11-14	3.5	6.9	2.9	6.7	20.0	8.3
15-19	9.4	9.3	8.6	3.3	-	16.7
20+	-	6.9	8.6	50.0	-	12.5

Source: Market Research Services, Ltd., Jamaica Business Survey, World Bank, 2003.

The Jamaica Employers Federation (JEF) survey highlights the different ways that organizations support training and development. Eighty-six percent of employees give paid time-off for exams, 80 percent give paid time-off for studies and 75 percent provide financial support for employee training and development. Other elements of training practices are given in Table 2.17.

Table 2.17 Elements of Training Practices Reported by Employers (Jamaica)

Element	Percent
Paid Time off for Studies	80.0
Paid Time off for Exams	86.2
Pay for Skills	9.2
Company Financial Support	75.4
Non-Paid Time off for Studies	26.2
Linkage to Performance Appraisal	26.2

Source: Jamaica Employers' Federation, State of the Industry Report: Training and Development, 2001.

The JEF survey also provides insights on the forms of employee development practiced by employers. As seen in Table 2.18, employers engage in varied forms of employee development. The most common is on-the-job coaching, followed by conferences, seminars and short courses

Table 2.18 Forms of Employee Development Practices (Jamaica)

Practice	Percent
On-the-Job Coaching	91.3
Short Courses	84.1
Conference/Seminars	79.7
Extended Formal Long-Term Education	37.7
Self-Directed Learning	27.5
Apprenticeship Training	27.5
Structured Job Rotation	26.1
Special development Assignments	26.1
Special Projects	21.7
Structured Mentorship	11.6
Focused Reading	10.1

Source: Jamaica Employers' Federation, State of the Industry Report: Training and Development, 2001.

Both Jamaica surveys point to the considerable amount of resources devoted to employee upgrading. It is surprising, therefore, that approximately 40 percent of firms in both of the studies did not have formal training policies and training plans in place. Firms that did not have a formal training policy were also unlikely to have training plans in place. The JEF study also reported that a formal training needs assessment is carried out in only half of the organizations that participated in their survey. This finding suggests that firms could benefit from assistance to help them implement training needs assessments and to develop training policies and training plans.

2.4 The Recipients of Training

This section attempts to capture the available information on who receives training in the Caribbean according to employment status, income, gender, education, economic sectors and region and discuses whether there is excess demand for training.

The World Business Environment Survey (1999) describes percentages of firms that provide training to various skill levels for four Caribbean countries as shown in Table 2.19. Bearing in mind that this information is now rather dated, it shows the Dominican Republic at the forefront of the Caribbean countries included in that study, with technicians and skilled workers being most likely to receive training, probably contributing to productivity of firms there. In general, the data show that unskilled workers are much less likely to receive training. Trinidad shows a low proportion of firms providing training, but again, the data are not current.

For Barbados, Ashton (2000) found that managerial and professional staff members are the most likely to receive training (57%), followed by white-collar workers at 48% and manual workers at 34%. (See Table 2.20)

Table 2.19. Skill Level and the Likelihood of Receiving Training
(Percent of Firms that Train Employees, by Skill Level)

Country	Technicians	Supervisors	Skilled workers	Unskilled workers
Trinidad & Tobago	24.0%	20.0%	26.0%	9.0%
Haiti	33.0%	31.1%	39.8%	18.4%
Dominican Republic	63.2%	46.2%	56.6%	18.9%
Belize	35.0%	40.0%	32.5%	22.5%
Average	53.1%	41.8%	45.3%	20.4%

Source: World Business Environment Survey, 1999;
Jamaica data: Market Research Services Survey (2003), Marquez, (2002)

Table 2.20 Barbados training offered in firms by level of workers

Managerial & Professional	White collar	Manual workers
57%	48%	34%

Source: Ashton (2000)

2.4.1 Employment Status of Training Recipients

Only INFOTEP captures this information, although we can estimate the quantities for the other countries based on the kinds of programs in place. INFOTEP, with so much of its training occurring inside of firms, reports that over 57 percent are employed, 46 percent as wage employees, with the unemployed comprising about 43 percent of training recipients (with females more prominent among the unemployed recipients). (See Table 2.21.)

In the other countries the preponderance of the offerings are aimed at either the unemployed, or the school leaver looking for a transition to the labor market

Table 2.21 INFOTEP output by gender according to employment category, 1982-2001

EMPLOYMENT CATEGORY	OUTPUT			
	%	TOTAL	MEN	WOMEN
EMPLOYED	**57.1**	**533,322**	**333,710**	**199,612**
OWN ACCOUNT WORKER	6.2	58,016	41,993	16,023
FAMILIAR WORKER	2.5	23,076	13,273	9,803
WAGE-EARNING WORKER	46.2	431,852	264,272	167,580
OCCASIONAL WORKER	2.2	20,378	14,172	6,206
UNEMPLOYED	**42.9**	**401,328**	**197,915**	**203,413**
TOTAL	**100.0**	**934,650**	**531,625**	**403,025**

Source INFOTEP Website

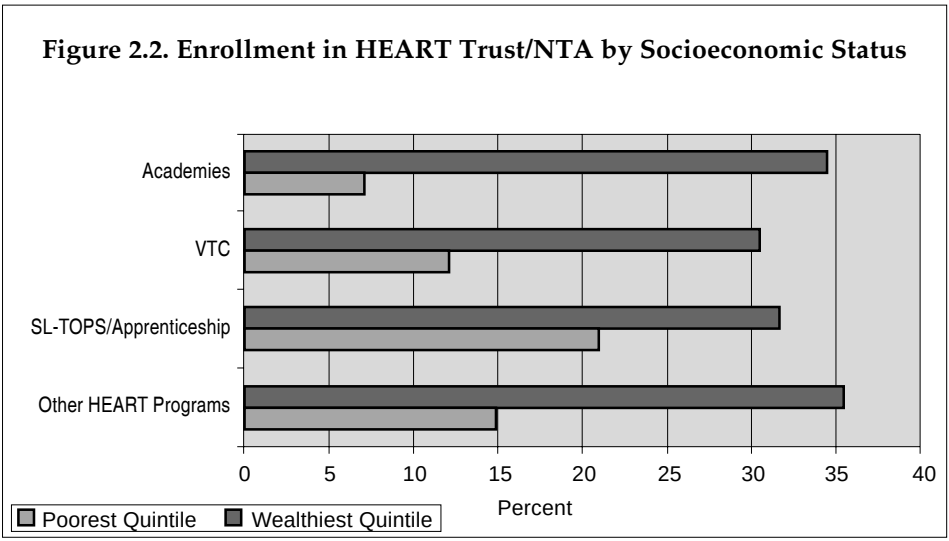
via a training program. In Jamaica about seven percent of enrolment is employed workers. These participants are trained through the Workforce Improvement Program, and last year, about five thousand mostly employed individuals began taking part-time courses through centers, and there are over 5,000 on-the-job trainees.

The private market, already apparently thriving in Trinidad and Tobago and Jamaica, serves a higher proportion of employed individuals, who also enroll in tertiary and university offerings.

2.4.2 Income of Training Recipients

Almost no data are available on the income levels of the recipients of training. The only data that had been compiled are from Jamaica, where HEART Trust/NTA found that its recipients were better off than was previously thought. Figure 2.2 shows a larger proportion of wealthiest quintile people at its Academies and VTCs relative to other modes of training, with the largest proportion of low-income individuals in the on-the-job training category. This has suggested to the agency that the scope for cost sharing is greater than was thought, and the agency is aware that introducing even modest fees would expand the resource pool and

Figure 2.2. Enrollment in HEART Trust/NTA by Socioeconomic Status



Source: Based on data from the 2001 Survey of Living Conditions as provided by the Planning Institute of Jamaica.

allow for more training (currently the agency charges moderate fees for training at Level 2 and above, but not for a "first benefit" at Level 1). As a result of these findings HEART Trust/NTA is examining a needs test that would assist in establishing who should pay and who should receive more support.

For Barbados, St. Lucia, and Trinidad and Tobago the pattern is that lower-income participants enter the youth oriented vocational programs and the better off, having gone to better schools, go to the tertiary institutions for training, as they will tend to have the higher qualifications needed to enter.

2.4.3 Gender Patterns of Training Recipients

The available data on gender participation in training put on by the public agencies is fairly clear. In the Dominican Republic training is skewed toward males with 57 percent of output over the past twenty years, but this gap has narrowed quite noticeably in recent years (Table 2.22), and as of 2001 the output was only 53 percent male.

In the English speaking Caribbean, the situation is very much reversed and not improving dramatically. Most of the vocational programs are skewed toward females with over 55 percent of enrolment in most programs. HEART Trust/NTA is 57 percent female, and the programs in St. Lucia are all at that level or above. This is likely related to both opportunity costs for males to enter training,

Table 2.22 INFOTEP Output by Gender

Year	Output				
	Total	Male	%	Female	%
1997	77,290	42,984	55.6	34,306	44.4
1998	92,656	52,161	56.3	40,495	43.7
1999	125,322	65,049	51.9	60,273	48.1
2000	149,122	76,560	51.3	72,562	48.7
2001	157,031	81,301	51.8	75,730	48.2
TOTAL	**601,421**	**318,055**	**52.9**	**283,366**	**47.1**

Source: INFOTEP Website

as well as their relative disadvantage against females in admissions due to lower academic achievement on average. Tertiary institutions reach female proportions as high as 66 percent in the region.

2.4.4 Age of Training Recipients

Again the Dominican Republic via INFOTEP shows a dissimilar pattern from its English speaking Caribbean counterparts as shown in Table 2.23. Note the older profile of persons benefiting from training in the Dominican Republic. Forty-six percent of recipients are over the age of 25 with the modal age grouping being 25-34.

Data on age are scarce for other countries but the clear impression is that public-sponsored training is for young people. In Trinidad and Tobago YTEPP, the YDACs and the Trade Centers cater for young people 16-21. The San Fernando Technical Institute says it takes applicants as young as 15. In St. Lucia the NSDC serves a clientele with about one third over the age of 25. The modal age in HEART Trust/NTA is about 20 years; older participants are becoming more prevalent, but comprise a minority, so far. The newly formed re-training unit of the MSTTE in Trinidad and Tobago intends to focus on further training for those aged 18-45.

Table 2.23 INFOTEP Output by Gender and Age Group, 1982-2001

Age Group	Output					
	%	Total	Male	%	Female	%
LESS THAN 15 YEARS	0.2	2,699	1,538	57.0%	1,161	43.0%
15-19	16.2	151,733	93,817	61.8%	57,916	38.2%
20-24	19.2	179,537	106,898	59.5%	72,639	40.5%
25-34	28.9	268,932	146,728	54.6%	122,204	45.4%
35-33	12.8	119,258	62,159	52.1%	57,099	47.9%
45 AND OVER	4.9	46,216	25,985	56.2%	20,231	43.8%
Unknown	17.8	166,275	94,500	56.8%	71,775	43.2%
TOTAL	**100.0**	**934,650**	**531,625**	56.9%	**403,025**	43.1%

Source: INFOTEP Website

Some of the master craftsman courses both in the Dominican Republic and Trinidad and Tobago require participants to be 22-24 years old.

2.4.5 Training and Educational Status

In the Dominican Republic, data are kept about the educational level of participants in INFOTEP programs. Table 2.24 shows the agency trains mostly secondary level candidates at 52.3 percent, primary level learners at 22.7 percent and tertiary level personnel at 14.8 percent, while 3.4 percent of participants are merely literate, and no information is available for 6.8%.

In Jamaica, about 90 percent of those enrolled in the regular programs are grade 11 high school leavers, but a clearer profile of the inputs cannot be had from the data, as it cannot give a reliable figure for how many subject passes different enrollees have attained.

In Barbados, St. Lucia and Trinidad and Tobago, those who qualify for admission to a tertiary level program get in there and those with less secondary qualification, especially subject passes, go to the youth-oriented vocational programs.

What cannot be ascertained is how many educationally disadvantaged young people are finding spaces in the training system. Since in the Dominican Republic, Jamaica, and Trinidad and Tobago and to some extent St. Lucia there are an insufficient number of secondary spaces, there will be school leavers with less

Table 2.24 INFOTEP Educational Level of Participants

Years	Instruction Level					
	Total	**Literate**	**Primary**	**Secondary**	**Tertiary**	**Unknown**
1997	77,290	3,623	13,665	34,879	12,466	12,657
1998	92,656	3,430	18,680	37,531	12,534	20,481
1999	125,322	3,876	29,989	70,704	18,556	2,197
2000	149,122	4,613	36,021	83,756	22,135	2,597
2001	157,031	4,950	38,432	87,574	23,403	2,672
TOTAL	601,421	20,492	136,787	314,444	89,094	40,604
%		**3.4%**	**22.7%**	**52.3%**	**14.8%**	**6.8%**

Source: INFOTEP Website

than eleven years of schooling. Unless means are found to ensure the representation of this group in training programs, they will likely be under-represented because of competition with more advantaged school leavers. From the analysis it appears that more effective training primarily benefits those with secondary education or more.

2.4.6 The Sectoral Distribution of Training Programs

What stands out in an analysis of the offerings of public sector training institutions (and private programs for that matter) is the great proliferation of, and diversification of programs in hospitality and information technology. In the INFOTEP system, IT output is about 13 percent of the total and hospitality about 12 percent. In Jamaica, IT enrolment was 20 percent last year and hospitality 21 percent (Table 2.25). Figures for other locations are harder to quantify, but the offerings in hospitality and information and communications technology are noticeably more in evidence and learners are increasingly drawn to these courses.

Both Trinidad and Tobago and Jamaica already have mobile computer labs, and Jamaica is planning to expand this offering this year. The implementation of the Caribbean Institute of Technology in Jamaica and CISCO Academy programs at three locations, so far, with five more to be developed in Jamaica and two in the region, are evidence of the seriousness with which ICTs are taken in the region. Trinidad and Tobago has implemented a variety of Cambridge International Examinations courses in a substantial network of public agency training labs with a variety of certificate and intermediate length courses.

Gradually, in the region, higher levels of culinary training are being provided, even though the region is still rather dependent on imported chefs. Jamaica has partnered with the Culinary Institute of America to upgrade culinary programs in Jamaica to associate degree and bachelor's degree level. This is a potential magnet for other chefs in training in the region.

The offshore ICT business is also coming into the region and is creating a modest number of jobs; the HEART Trust/NTA has already partnered with numerous investors starting ICT businesses in Jamaica, sometimes subsidizing the cost of in-plant training and sometimes providing the initial screening and training for the investor firms. On the other hand, the large increase in ICT capacity also reflects a fair amount of basic, fairly low-level training in how to simply use a personal computer, and this can be masked a bit as if it were actually a real job

skill sufficient, in and of itself, for employment. There are further issues in this somewhat new and challenging area; instructors are not easy to recruit, and there is the need to continually update content in such a fast changing field.

Beyond these more recent developments, we see training systems that continue to provide programs in business and commercial skills, the construction trade, industrial maintenance, apparel and health occupations. In the Dominican Republic (Table 2.25), as much as 30 percent of output is related to industrial skills, reflecting INFOTEP's roots and core competence in this sector, strong linkages to private sector needs and the size of the industrial sector in the Dominican Republic.

In the English-speaking Caribbean, health occupations have generally been the province of ministries of health, and these capacities are strained by migratory pressures on nurses and the limited resources of the health ministries. Given both the local and international opportunities in health care, and the appropriateness of standards-based training approaches in this area, expansion of training opportunities in the health care field would appear to be a worthy idea for training providers.

The Early Childhood area has also been professionalizing throughout the Caribbean, consistent with policies to upgrade the quality of early childhood offerings. The occupational standards developed in Jamaica in 2000 have become an important benchmark for practitioners in the region. The NCTVET in Jamaica is actively certifying, via assessment of prior learning, practitioners in a number of territories in the region, while in Jamaica, over 4,500 practitioners have been certified at Level 1. Now the centers are offering Level 2 training to bring the practitioners up to a more highly skilled level.

Table 2.25 shows the change in the sectoral distribution of HEART Trust/NTA's programs and compares this with INFOTEP's long-term outputs. Although the time frames are different and enrollments and outputs are both used, the percentages indicate the distribution.

A critique of the distribution might include the observation that health care training is in short supply, and that the business and commercial skills are mostly clerical and receptionist, with little attention to banking, financial services, or retail sales—all fairly strong areas of employment growth. Since the countries are all involved in tourism, there is not much non-accommodation segment provision, and the areas of automotive repair, entertainment and creative arts appear deficient.

Table 2.25 Comparison of HEART Trust/NTA and INFOTEP Sectoral Distribution of Training

Sector	HEART Trust/NTA Enrolment 1995/96	%	HEART Trust/NTA Enrolment 2003/04 (9 months)	%	INFOTEP Output 1982-2002 Long Courses	%
Hospitality	1,630	**10.9%**	7,468	**21%**	70,214	**12.1%**
Info. & Comm Tech.	535	3.6%	7,022	**20%**	75,808	**13.0%**
Building Construction	2,431	**16.2%**	4,914	**14%**	8,346	1.4%
Apparel & Sewn Products	3,068	**20.4%**	2,806	8%	102,004	17.5%
Business & Commercial	2,209	**14.7%**	2,367	7%	41,833	7.2%
Industrial Maintenance	804	5.4%	2,255	6%	172,509	**29.6%**
Transport./Automotive Trade	1,307	8.7%	2,208	6%		
Health					8,186	1.4%
Pre-Voc./Cont. Ed. Prog.	1,554	10.3%	1,572	4%		
Early Childhood Care			1,387	4%		
Other Skills	123	0.8%	1,081	4%	21,373	3.7%
Agricultural & Processing	433	2.9%	1,061	3%	58,207	10.0%
Beauty Care Services	343	2.3%	893	2%	9,985	1.7%
Art and Craft, Woodwork	584	3.8%	302	1%	13,397	2.3%
TOTAL	15,021	100%	35,807	100%	581,862	100.0%

Source: Compiled by author from HEART Trust/NTA and INFOTEP data

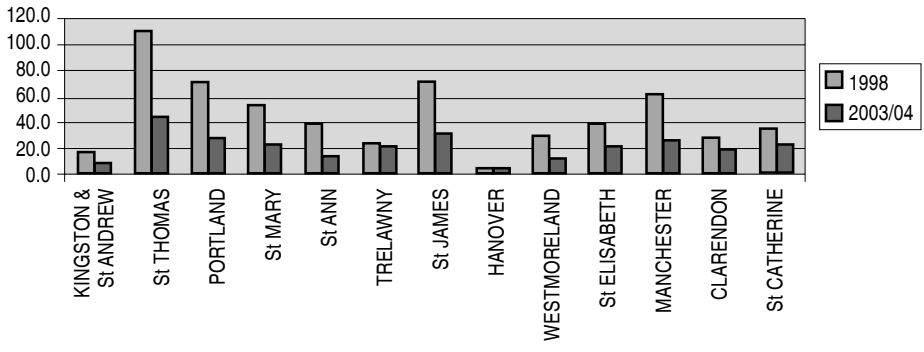
2.4.7 Training by Region of Country

INFOTEP has a deliberately regionalized organization with some amount of autonomy in its regions. INFOTEP lists its offerings by region, but because capacities were not available, it is not possible to provide an analysis in relation

to population or economic activity. INFOTEP lists 39 collaborating centers in the south, nine in the east, and 26 in the north, with the National INFOEP Center serving Santo Domingo and environs.

Jamaica keeps data on the distribution of training spaces by parish and computes a ratio of spaces to members of the working age population (among other variables). This analysis has enabled the agency to address disparities in the geographic access to training opportunities and community-based programs, mainly by establishing partnership-based projects in under-served areas. Figure 2.3 shows the change in the ratios between 1998 and early 2004. Hanover is usually combined with St. James for analysis.

Figure 2.3 HEART Trust/NTA: Ratio of training spaces to working age population, 1998-2004



Source: HEART Trust/NTA

The target ratio has been one space to 30 members of the working age population. Since 1998, all but one parish has achieved that target. The average ratio is now 1:26 across the parishes. Three parishes are currently above that ratio, i.e. St. Thomas, Manchester and Portland.

Table 2.26 contains a summary of the findings about the recipients of training in Caribbean countries.

Table 2.26 Recipients of Training in Caribbean Countries

Variable	Barbados	Dominican Republic	Jamaica	St. Lucia	Trinidad & Tobago
Employment Status	Data not compiled BVTB, SKT for unemployed, BCC and SJPP for more qualified	Wage employed = 46.2% 10.9% other; employed; total employed=57.1% Unemployed = 42.9%	15-20% Employed 75-80% Unemployed	Data not compiled	Data not compiled
Income	Data not compiled	Data not compiled	See Figure 2.2 Over 30% in wealthiest quintile	Data not compiled	Data not compiled
Gender	Data not compiled	53% male 47% female	HEART Trust/NTA 57% female 43% male	SALCC is 64% female (2003); V-FCS is 57% female NELP is 73% female NSDC 65%-73% female NELP 81% female	Data not compiled
Age	Data not compiled	15-19=16.2% 20-24= 19.2% 25-34=28.9% Over 35 = 17.7%	Data not compiled, median age in 2000 was 19	Data not compiled	Data not compiled
Education	Nearly all are secondary completers	Less than secondary 28% Secondary or above 72%	Less than secondary 23.4% Secondary or above 76.6%	Data not compiled	Tertiary training for completers, YTEPP and NATC for others
Economic Sectors	Data not compiled	See table below	See Table 2.25 above	Data not compiled	Data not compiled
Region	Data not compiled	Data not compiled	See Figure 2.3 above	Data not compiled	Data not compiled

Source: Compiled by author from various sources

Note: For the Dominican Republic data for the specific education level of training exist: (i) 3.4 % of recipients were Literate; 22.7% had primary education; Secondary 52.3%; Tertiary 14.8% and Unknown 6.8%. The shares reported in the table exclude the group with an unknown level of education.

2.5 Indicators of excess demand for training

There is little available evidence about the true economic demand for training. The English-speaking Caribbean shows evidence of an excess of social demand for training programs, in some ways because of the inadequate access to and quality of secondary education. There is also a reported excess demand for tertiary education in the region.

> In Barbados for the SJPP: *"Every year about 3,000 people apply for the institution's continuing education courses and about 50 per cent are refused, not because they do not have the required entry qualifications or experience, but as a result of limited physical space, facilities and staff. In addition, applications were received from students outside of Barbados - including those from Suriname, St. Lucia, St. Vincent and as far as Namibia. Lack of space and shortage of staff are particularly acute at SJPP in Applied Electronics, Architectural Drafting, Automotive Electrics, Childcare and Nursery Administration, Building Drawing, Electrical and Electronics courses, Ladies Tailoring, Massage Therapy, the Motor Vehicle Engine Certificate courses, Plumbing and Refrigeration and Air Conditioning".*
> (At http://www.barbados.gov.bb/site_search.asp?id=2002829335.txt)

The World Bank study of 2000 on youth and social development in Trinidad and Tobago indicates a serious shortage of training and development programs, and that special efforts are needed to target the disadvantaged. Since 2000, financing decisions in Trinidad and Tobago resulted in a decrease in training opportunities that led to insufficient supply, particularly at JSTDI. This is now being addressed with the reintroduction of the NEC courses.

In St. Lucia, the introduction of the Youth Apprenticeship Program is cited as a response to excess social demand for training.

In Jamaica, less than one-half of applicants who apply to HEART Trust/ NTA are enrolled based on how they perform on an entrance test pegged at a grade-nine level of academic achievement (See Table 2.27).

No information on supply versus demand was available for INFOTEP, but the close linkages to industry suggest the economic demand fit is probably good.

In terms of demand from firms, the national training agencies and TVET councils are well positioned to respond to requests for training assistance from

Table 2.27 Heart Trust/NTA Admissions Test Results

YEAR	NUMBER TESTED			NUMBER PASSED			MALE PASS RATE	FEMALE PASS RATE	TOTAL PASS RATE
	M	F	T	M	F	T	M	F	T
2001–2002	10,055	9,981	20,036	4,699	4,832	9,531	47%	48%	48%
2000–2001	7,886	9,620	17,506	3,633	4,554	8,187	46%	47%	47%

Source: HEART Trust/NTA

firms. INFOTEP has a strong presence in firms, HEART Trust/NTA partners with major entities in tourism, information technology, and food processing, and brokers training programs as requested. In Barbados the Employment and Training Fund is used primarily to respond to the needs of firms to fashion custom training programs.

3. Economic Impact of Training

This section surveys available evidence of the economic impact of training on labor market outcomes (employment and wage) and on firm productivity and investment. Further, it attempts to assess whether the supplied training matches the demand.

3.1 Labor Market Outcomes

There is precious little available data on the economic impact of training programs in the region and data were available only about Jamaica and Trinidad and Tobago. In a 2000 study of youth programs in Trinidad and Tobago, the World Bank reported:

> *"The limited evidence from evaluations (mainly on YTEPP and SERVOL) indicates that training is generally useful but meets the demands of the market only to a certain degree. Some indicators of YTEPP's success include: requests from private sector industrial and business employers as well as state agencies and NGOs for the customization of its integrated training package, high participation by vulnerable groups, and strong demand by clients. Several tracer studies have demonstrated positive effects of YTEPP participation on beneficiary employment rates, earnings, rates of self-employment, labor force participation, pursuit of further studies, literacy and numeracy, and character (for example, motivation and attitude). SERVOL graduates have also fared well, with studies showing 41% fully employed, 27% employed part-time and 2% self-employed."*

The HEART Trust/NTA has completed a number of tracer studies (e.g. HEART Trust/NTA, 2002), these studies show employment rates ranging from as low as 20-25 percent in agriculture and apparel, with the average range being

40-45 percent for business and commercial, automotive and construction, about 60 percent in Information Technology and over 60-70 percent in hospitality.

As a result of these studies, the agency has reduced offerings in apparel, replacing this with mostly basic level IT and diversified its agricultural institution into food service. This has taken several years to achieve, however. The studies show a linkage between participation in the work experience program during training and the likelihood of employment, but not all trainees can be placed on work experience. Employment rates vary considerably by the location of training center, with North Coast Centers doing much better in recent years, and by reputation of some institutions. Kenilworth Academy posted an employment rate of 88 percent. In a separate internal study, the Special Programs category reported an employment rate of 65 percent of those who graduated in 2000/01 (47 percent were employed to organizations and 18 percent were self-employed).

Reasons for less than acceptable levels of employment include the still valid finding of Knight (1992) that the economy does not create enough jobs to effectively absorb the HEART Trust/NTA output, and HEART Trust/NTA's own recognition that its job placement services are not very effective (which is now being aggressively addressed).

Wages are slightly higher for graduates than non-trained controls (applicants who applied for training and were accepted but did not undergo training), but not necessarily in relation to non-completers, about half of whom left training early to be employed (HEART Trust/NTA, 2002).

The tracer studies suffer from somewhat low response rates and the difficulties to analyze down to more specific levels, given low numbers of respondents. They should examine specific skill areas more closely, and look more closely at how the educational and social background of individuals interacts with the training. A more sophisticated statistical analysis of tracer study data from 1996 showed that the prior education of the trainees accounts for more of the variance in employment and earnings than does the training.

James (2003) analyzed rates of return to secondary education and tertiary education and found that returns to HEART Trust/NTA graduates at the secondary level (more the entry-level training) were higher than for general secondary education at 12.2 percent, with HEART Trust/NTA tertiary participants (the higher levels) showing returns at 17 percent. HEART Trust/NTA graduates had a higher rate than Northern Caribbean University.

No data on outcomes could be found for Barbados, the Dominican Republic, or St. Lucia.

3.2 Effects on Firm Productivity and Investment

No published evaluation data on the effects of government training programs on productivity or investment could be found. The levy supported training agencies in the Dominican Republic and in Jamaica both offer services aimed at increasing productivity with client firms. The Dominican Republic has a very large investment in training in the firms and uses is Enterprise Service Consultants Offices to assist firms using a methodology adapted from the ILO/Cinterfor referred to as ProMES which involves a systematic approach to measuring and improving productivity. Mertens (2002) describes INFOTEP's own study with very interesting comments about improving productivity in firms in the region.

> "In 2001, INFOTEP carried out a study of the impact the methodology had had so far both on employers and workers. We include below some results of the study, together with field observations during the period of application of the methodology.
> By mid-2001, the universe of enterprises undergoing some stage of application was 75, with a total employed population of about 10,000. Out of the 75 companies, half were in the initial coaching stage and 29 were already applying the method. By mid-2002, 744 persons had been certified by competencies at enterprise level, by means of the Amod methodology.
> Two comments can be made about the application universe. Firstly, the companies belonged to the manufacturing, commerce and services sectors and were large, small and medium-sized. This shows the universal relevance of the methodology, which is no doubt one of its strong points. The second comment is about intensive or systematic application. In most cases, contact with the methodology has been intermittent, with high and low peaks in measurement and feedback. Few enterprises have incorporated it systematically into their medium term strategy. They seem to have great difficulty in getting over a long-standing, inherited culture of doing business on the spur of the moment, taking advantage of opportunities. Enterprises also seem prey to uncertainty as a result of constant changes in their environment, which prevents them from taking a medium term view.

> In most cases, despite temporary application, relevant impacts have occurred and not just momentarily but regarding the process itself. We may wonder if, like INFOTEP, what we intend is to generate an initial impact motivating enterprises to continue with the methodology, or to achieve a sustained effect in time. The latter is difficult but necessary to verify the hypothesis that the methodology can be sustained in time and continue generating impacts. It has been observed that continuity is not automatic, even in successful cases of application. This has to do with the fact that the methodology involves a change in organizational and managerial culture.
> Whenever an unforeseen market event occurs (i.e. a personnel change or a new technology) there is a strong temptation to revert to old paradigms. As we saw with the sugar mills in Mexico, the old culture has an enormous capacity to engulf whatever tries to emerge as a new work culture, oriented toward organizational learning and involving all workers. This does not imply denial of all possibilities of change in that direction, but means that change will not be a straightforward process. There will be an ebb and flow and a variety of approximations for adapting the organization's work culture to the new contents."

In Jamaica the Workforce Improvement Unit at HEART Trust/NTA provides consultative services to firms that include training needs analysis and the arrangement of customized training programs either at the firms or in arrangements with institutions and centers. They provide services to sixty or so firms a year impacting about 600 workers. They achieve cost recovery on the costs of the training, but the unit's costs are paid by HEART Trust/NTA. The purpose of the unit is to improve productivity through training, but no evaluation has been conducted. HEART Trust/NTA had a recent employers' survey in 2002, but the questionnaire does not focus on productivity, but rather shows HEART Trust/NTA graduates are well regarded in the firms that actually hire them.

Regarding investment, it must be said that although there are no data to support the claim, it would appear that the presence of the levy fund is attractive to investors who are invited by the state investment agencies to take advantage of the provisions to provide initial training for the workers in new projects. This is quite apparent in the free zones in Dominican Republic and was the case for Jamaica's free zones until many of the apparel manufacturers departed in the

latter part of the 1990s. Jamaica now courts ICT investors and HEART Trust/ NTA partners with all of them who ask for assistance, with several operators experiencing success so far in the partnerships.

The absence of evidence on training and productivity suggests the need to conduct studies to analyze the relationship of the different kinds and modalities of training to increasing productivity.

3.3 Matching Supply and Demand in Training

In the Dominican Republic, since about 40 percent of its offers occur within firms themselves, they are assured of a good match for a large proportion of their programs. Their central facilities (one in each region) and collaborating centers offer more in-depth training than would be offered in a firm. INFOTEP Center offers mostly industrial trade areas, information technology, graphics and multimedia. The collaborating centers offer a wide variety of courses including information technology, automotive, tourism and hospitality, and agriculture. It is really not possible to assess the match of supply to demand, however, without considerably more information that cannot be found.

What can be seen is the response of training agencies and providers to the services economy, especially in the areas of tourism and hospitality, and information and communications technologies. Areas of concern would include the quantity of workers to service the growing automotive needs of the countries, and areas such as retailing, as not many of these workers are trained and customer service is considered poor.

Jamaica's new workforce certification thrust is of interest in terms of stimulating demand-led training in firms. Already several major chains on the island are expressing enthusiasm for certifying their workers under the new framework including a major supermarket chain (SuperPlus) and the tourism giants Sandals and SuperClubs.

Matching supply and demand also raises the question of the level of training and opportunities for advanced training. In general, much of the training is at an entry-level, but the market wants more highly trained persons. Jamaica has not had the success it planned in shifting the proportions of training toward higher levels. Some of the financing policies favor lower-level training, and the levels were arranged in with the idea of completing levels in sequence starting at Level 1, then entering employment, and subsequently completing Level 2, at a

cost to the learner. Now the financing is undergoing change to reduce costs for Level 2, and a qualified learner can simply enter for Level 2 taking a longer course.

Matching supply and demand in the institutions is a particular challenge given the deficiencies of detailed labor market information showing more precise figures for occupations (See Section 6.3).

4. Financing, Costs and Efficiency of Training

This section presents a regional view of financing of training in the Caribbean and compares the levy schemes with similar financing schemes in the world. Further, it discusses what little is known about unit costs for training in Jamaica, and looks at other efficiency factors such as overhead costs and salary costs. It was not possible to complete an analysis of efficiency and cost effectiveness due to insufficient comparative data across countries, although Jamaica's costs look rather high in comparison.

4.1 The Use of Training Levies

Dar and Canagarajah (2001) analyzed training levies across the world and found the following broad types:

> *"revenue-generating levy schemes such as the Brazil SENAI scheme, payroll tax exemption schemes such as Cote d' Ivoire's Vocational Training Development Fund, levy-grant schemes such as Hungary's Vocational Training Fund, and training cost reimbursement schemes such as Malaysia's Human Resources Development Fund (HRDF)."*

INFOTEP and HEART Trust/NTA are financed principally through the payroll levies in effect in those countries; in the Dominican Republic a training levy of one percent of payroll and one-half percent of workers' bonuses is enforced and in Jamaica the levy is three percent on employer payrolls (above a low threshold). Barbados has the Employment and Training Fund (ETF) for financing a limited number of training programs offered by the TVET Council, while in Trinidad & Tobago and St. Lucia, all training is financed by government general revenues, with cost sharing in place for some programs at tertiary institutions.

The Dominican Republic levy is essentially a training cost reimbursement scheme that has also functioned as a revenue generating mechanism allowing the development of education and training programs in the communities to flourish. The total amount generated by the levy could not be ascertained. INFOTEP also derives revenue from providing services, and from any fines or extra charges imposed on firms that have been delinquent in paying the levy.

The Jamaican three percent levy is the highest that has been found in the world. The law has a payroll tax exemption that allows firms to reclaim their tax paid by providing traineeships. In practice, the Trust also employs levy-grant and training cost reimbursement, depending on the circumstances. The Trust has accumulated a surplus over the years amounting to about six months of operational cost, and is intending to lower this surplus amount in the coming two years by providing incentives for worker training and certification. In a significant sense, the Trust has functioned as a revenue-raising scheme and has used the levy to develop a sizeable training system. The 3% levy is currently under review at the Ministry of Finance in consultation with the IMF with the idea of consolidating payroll taxes, including a dedicated tax for the National Housing Trust, to streamline the payment process. Whether this will result in a lowering of the 3% levy is not yet known. HEART Trust/NTA derives 89.5 % of its income from the levy, 7.5% from earned income, and 3.0 % from interest earned (down considerably after a period of high interest rates that helped swell its accumulated surplus). Various development assistance projects are in place that may or may not show as income to the Trust.

The Barbados TVET Council is supported by a one percent tax falling half on employers and half on employees, administered under the National Insurance scheme. This becomes the Employment and Training Fund (ETF) administered by the TVET Council. The Barbados ETF policy stipulates that firms pay 25% of the costs of training programs administered by the TVET Council, but generally this is a levy-grant scheme. The amount collected by the ETF could not be ascertained.

Training levies are common throughout the LAC. Comparable training levies in the region include Ecuador 0.5%, Guatemala 1%, Nicaragua 2%, Paraguay 1%, Peru 0.75%, and Venezuela 2% (Dar, 2001). Table 4.1 captures and enlarges upon Dar's analysis.

The evidence on levy schemes from Dar is that these schemes do increase the quantity of training available, but that their effectiveness is dependent on

Table 4.1 Payroll Levies in Comparison

Country	Rate (%)	Revenue Generating	Payroll Tax Exemption	Levy-Grant	Training Cost Reim-burseme
Bahrain	1.0-3.0	✓			
Barbados	1.0			✓	
Brazil	1.5	✓			
Cote d' Ivoire	0.4-1.6		✓		
Dominican Republic	1.0 +0.5				✓
Ecuador	0.5	n.a.			
France	1.5		✓		
Guatemala	1.0	n.a.			
Hungary	1.5			✓	
Jamaica	3.0	✓	✓		
Kenya	1.0				✓
Korea	0.5		✓		
Malaysia	1.0				✓
Morocco	1.6	✓			
Nicaragua	1.0	n.a			
Nigeria	1.25				✓
Paraguay	1.0	n.a			
Peru	1.0	n.a.			
Singapore	1.0				✓
South Africa	0.5-2.0			✓	
Tanzania	2.0			✓	
Turkey	n.a.	✓			
U.K.	1.0-2.5			✓	
Venezuela	2.0	n.a.			
Average Latin America	1.12				
Average Caribbean	1.66				
Average Africa/Mid East	0.96				
Average Europe	1.33-1.6				
Average Asia	0.83				

Source: Type of levy: Dar and Canagarajah (2001); author's findings

economic growth, which is needed to focus the financing on real needs. They also note that smaller firms are less likely to benefit from levy resources, as there may be time and expense involved in accessing the levy's benefits, and that skilled workers usually benefit most.

That the levy has increased the amount of training seems clear in the DR and Jamaica, although in Jamaica this is mostly institution-based training, and, in this sense the levy has been used as a revenue-generating device to build a significant training system. And, at least in the Jamaica case, it is probably true that small firms are more challenged to use the levy to their benefit and that the system is less than optimal because of low economic growth. The data suggest that the levy has indeed encouraged training of skilled workers and technicians in the DR.

The high level of the levy in Jamaica puts it at risk for a downward revision, especially as it is under review by the Ministry of Finance. The recent study on returns to investment by James (2003) lends support to the case to keep HEART Trust/NTA operating at a high level, since the data indicate HEART Trust/NTA programs appear to add value to otherwise weak secondary school graduates.

For Barbados, it is impossible to assess the effects of the ETF levy as data could not be had about its amount and how it is actually spent.

4.2 Public Sector Allocations for Training Programs

Table 4.2 attempts to summarize the funding picture based on available information according to types of training offered across the five countries in the region. Barbados is spending about US$11.66 million, Jamaica about $54.5 million, and St Lucia about $1.63 million. The amount spent in total by Trinidad and Tobago could not be accurately ascertained as not all reports were received and several large institutions were not reported upon; however an amount of about 10.8 million was ascertained. Data were not received for the Dominican Republic.

The data suggest wide variation in the amount spent per member of the working age population with the figure for Barbados being the highest at $60.08 per member of the working age population, followed by Jamaica at $31.35, St. Lucia at $15.79 and Trinidad and Tobago at $11.21. The figure for Trinidad and Tobago would be larger with the inclusion of missing data.

Table 4.2. Public Expenditure on Training by Country (US$)

PROGRAM	BARBADOS	DOM. REP.	JAMAICA	ST. LUCIA	TRINIDAD & TOBAGO
Institutional Training	BCC Hospitality Institute= $2.5m Barbados Community College=$9.2m (about 1/3 TVET=$3.06m) SJPP=$5.35m	Data not received	$33.9m	EC$12.6M 30% is technical & management studies= EC3.8= US$1.41m	YTEPP =1.76m JDTI=data not received SFTI-data not received MIC & NSEC-data not received
On-the-Job Training	Barbados Vocational Training Board=$3.9m		$2.94m		$2.88m
Community Training & Youth Programs	BYS—no figures supplied BYES—no figures supplied		3.6M	$.22m	YAPA=$5.34m Export Centers = $0.799M
Other	TVET Council budget = $.75m		$17.7M		NTATT-data not received
TOTAL ESTIMATE	**$11.66m**		**$54.54m**	**$1.63m**	**$10.779M**
Annual expenditure per working age population (in US$)	$60.08		$31.35	$15.79	$11.21

Source: Compiled from various sources by author. Barbados figures supplied by Barbados TVET Council Note: Tertiary Education allocation includes SALCC, which is about 30% technical and vocational.

In terms of private sector expenditure the analysis of Blank (2003) in Jamaica is interesting in providing an estimate of the kinds of money being spent by firms:

> "Based on the data reported by the Jamaica Employers Federation study, we estimate that the 67 firms that provided information on training expenditures spent approximately J$219.3 million (US$5.0 million) on staff upgrading. While it is impossible to extrapolate to all employers based on the data presented by JEF, there is no question that employers make significant investments in staff upgrading."

4.3 Training Incentives in Tax Policies

In Barbados tourism firms can deduct 150 percent of training expenditures (200 percent if there is an approved employee share ownership scheme in place), and in information technology a training grant of U.S.$50 per employee per week is applicable. St. Lucia provides a three-year tax credit to firms who take on a participant from its new (short-term) Youth Apprenticeship Program. Trinidad and Tobago is examining proposals for a training tax credit or other financing mechanism for its planned Science and Technology Park. The Jamaican HEART Act allows for a tax credit against the three percent levy obligation to firms participating in providing traineeships, but the amount of the credit is small and has been eroded by inflation over the years, and does not appear to operate as a genuine incentive. HEART Trust/NTA is instead looking at a temporary set of incentives financed from its accumulated surplus to stimulate training and certification of existing workers in contributing firms.

INFOTEP operates a levy-grant scheme for the approved training in firms, thus returning amounts paid in by both employers and workers.

4.4 Analysis of Training Costs

It was not possible to get detailed expenditure information from most of the jurisdictions under analysis to understand the specific allocation of resources to salaries or overhead costs, or to evaluate unit costs. It is possible, however, to calculate the unit enrolment cost for the public-financed training. This analysis shows Barbados spending U.S.$7,900 per enrollee, more than six times the amount per enrollee spent by Jamaica at HEART Trust/NTA. Trinidad and Tobago's

figures are missing COSTAATT expenditure, so its $600 per enrollee is an underestimation, while St. Lucia shows expenditure of $441 per enrollee.

The unit cost per enrollee is calculated in Table 4.3 below:

Table 4.3 Unit Cost Calculations (US$)

Country	Expenditure	Enrolment	Unit Cost
Barbados	11.66m	1,476	7,900
Jamaica	54.54m	42,490	1,368
St. Lucia	1.63m	3,694	737
Trinidad & Tobago	10.8m	18,000	600

Source: Author's calculations from data supplied

The 2000 World Bank report on youth programs in Trinidad and Tobago said that unit training costs in Youth Development Apprenticeship Centers were about TT15,000 (U.S.$2,400) per student and that salaries accounted for 80 percent of the budget.

The only more detailed data that were available were from HEART Trust/NTA. In terms of the largest categories of spending, HEART Trust/NTA reports the following major categories of expenditure for 2003-04 in its budget:

- Personnel Costs = 42.8% (down from 49% in 1998/99)
- Training Subventions = 14.6% (funds given to external providers)
- Food & Drink = 4.2%
- Stipend = 2.5% (Level 1 trainees receive JA$250 per week for transport)
- Special Incentives = 2.02% (to promote participation in new framework, levy-grant approach)
- Security = 2.5%
- Part-time personnel = 1.7%
- Other costs: 29.38 (all line items less than 1.7%, but includes all learning materials and training supplies)

As shown in Table 4.4, central administration consumes nearly 14 percent of the budget (finance, tax compliance, personnel, planning, etc.); program moni-

Table 4.4 HEART Trust/NTA Budget 2004/05

HEART Trust Expenditure	Projected 2003-04	%	Budget 2004-05	%
Central Admin	438,861,806	15.0%	477,412,435	13.6%
Program Monitoring & Admin	137,236,130	4.7%	161,415,987	4.6%
Training Support	74,692,909	2.5%	89,331,530	2.5%
Academies	999,253,772	34.1%	1,172,131,860	33.3%
VTCs	456,958,256	15.6%	583,483,368	16.6%
Community Programs	163,735,991	5.6%	215,962,966	6.1%
Industry Programs*	54,690,860	1.9%	107,022,391	3.0%
OJT**	101,795,480	3.5%	178,176,597	5.1%
VTDI	156,542,256	5.3%	187,499,158	5.3%
NCTVET	99,138,216	3.4%	114,870,718	3.3%
Other	247,483,136	8.4%	229,579,136	6.5%
TOTAL	2,930,388,812	100.0%	3,516,886,146	100.0%
Training Only				
Academies	999,253,772	34.1%	1,172,131,860	33.3%
VTCs	456,958,256	15.6%	583,483,368	16.6%
Community Programs	163,735,991	5.6%	215,962,966	6.1%
Industry Programs	54,690,860	1.9%	107,022,391	3.0%
OJT	101,795,480	3.5%	178,176,597	5.1%
VTDI	156,542,256	5.3%	187,499,158	5.3%
TOTAL	1,932,976,615	66.0%	2,444,276,340	69.5%

*Large increase for Caribbean Institute of Technology to expand to community colleges' offerings.
**New Special Incentive under OJT ($71M for firms to perform training & certification)
Source: HEART Trust Budget

toring and training support, an additional form of overhead, consume 7.1 percent. Accreditation and certification consumes about 3.3 percent, and other costs, like assistance to the Ministry of Education for Technical High Schools, comput-

ers and IT services, consumes 6.5 percent. This leaves about 70 percent for the actual training programs, including significant new, planned expenditure to increase the number of sites offering the Caribbean Institute of Technology program and the new incentive for training and certification planned for this year.

The unit costs of training are only available for Jamaica's HEART Trust/NTA, and this presentation borrows heavily from Blank, 2003. These costs can only be analyzed at the level of the training location and not the actual training programs. The accounting system is presently being modified to capture costs at the program level. The unit cost calculations are skewed by the currently high cost of the relatively new Caribbean Institute of Technology at about seven thousand U.S. dollars per participant. Otherwise average costs are about U.S.$1,400 per completer, with the Academies, some of which are residential, showing the highest cost, and community programs and on-the-job training showing the lowest costs. Within the Academies category itself, unit costs are quite variable and indicate that smaller institutions operate with significantly higher costs as shown in Table 4.5.

It appears that among the HEART Trust/NTA-financed programs the size of enrollment is a main determinant for unit costs while residential status and

Table 4.5 HEART Trust/NTA Unit Costs by Program Type

Training	2003-04	%	Output 2003-04	%	Unit Cost
Academies	999,253,772	34.1%	9,342	42.16%	J$ 106,964
VTCs	456,958,256	15.6%	4,682	21.13%	J$ 97,599
Community Programs	163,735,991	5.6%	4,070	18.37%	J$ 40,230
Industry Programs	54,690,860	1.9%	199	0.90%	J$ 274,828*
OJT	101,795,480	3.5%	2,073	9.36%	J$ 49,105
VTDI	156,542,256	5.3%	1,790	8.08%	J$ 87,454
TOTAL/AVERAGE	1,932,976,615	66.0%	22,156	100.00%	J$ 87,244

*Industry programs' cost is inflated by CIT, if removed the average for industry-based programs is $62,569.

Source: HEART Trust/NTA Budget

skill area may also contribute (See Table 4.6). For instance, unit cost per trainee was highest in two non-residential Academy institutions with the smallest enrollments (Cosmetology and Cornwall Automotive) while Portmore (J$52,790) and Stony Hill (J$49,843), both residential academies with high enrollments, recorded relatively low unit costs. Cornwall Automotive, which is a non-residential academy training automotive skills, had the second smallest enrollment (175). Its unit cost was J$ 114,253, the second highest among Academies. By contrast, at JAGAS, also a non-residential Academy providing automotive skill training, the unit cost was only J$43,009, less than half of the unit cost in CATI. However, it should be noted that the lower unit costs at JAGAS are also due to the fact that the calculation does not differentiate part-time students in the second- and the third-year training.

Table 4.6 Expenditures and Unit Costs by Cost Centers (Academies and VTCs) 2001/02

Location	Residential Status	Projected Expenditures 2001/02	Enrollment	Unit Cost
Cosmetology	NR	20,778,361	173	120,106
Ebony Park School	R	82,745,725	908	91,130
Garmex	NR	67,932,098	1575	43,131
Kenilworth	NR	84,001,251	2118	39,661
Cornwall Automotive	NR	19,994,264	175	114,253
Portmore	R	78,393,198	1485	52,790
Runaway Bay Institute	R	56,841,536	801	70,963
Stony Hill	R	92,208,746	1850	49,843
JAGAS	NR	39,009,380	907	43,009
NTEI	NR	47,103,191	1239	38,017
VTCs Average	NR	327,510,380	6506	50,340

Source: HEART Trust/NTA 2002/2003 Budget and other information provided by HEART Trust/NTA

At VTCs, the average unit cost of training an individual trainee was J$50,340. Diseconomies of scale in VTCs caused by the smaller enrollment size seem to be a main determining factor for the disparity in the unit costs. In 1999/2000, the unit cost varied across 16 VTCs ranging from J$46,066 (Rockfort) to J$105,143 (Culloden). As in the Academies, there is a strong correlation between unit cost and size of enrollment. For instance, Culloden and Boys Town which recorded the two highest unit cost, J$96,757 and J$105,143, respectively, had the smallest size of enrollment (142 and 126, respectively).

The inverse link between the size of training institutions such as Academies and VTCs in Jamaica is consistent with international experience. This suggests the possibility of examining various alternatives to maximize the use of training resources, including consolidation of training institutions, different organizational arrangements for learning opportunities, partnerships with other education and training establishments or firms, distance education and the use of information technology in learning, and/or initiatives to promote private sector provision. Efforts to expand the size of the small VTCs, as suggested by HEART Trust/NTA, may also be appropriate. It is important to note that these alternative strategies may not reduce unit costs. For example, distance education programs can be very expensive to establish. Analysis of the economic and social costs and benefits of alternative strategies would help to inform policymaking.

The findings on institution size and unit costs has an important implication for the CANTA process and suggests possible scope for larger regional institutions that operate with relatively high efficiency. The analysis of unit costs should be extended to other countries in the CANTA process to confirm the Jamaica finding.

5. Governance and Institutional Structure

This section presents a typology of the institutional structures for training in the Caribbean, and discusses the management of resources, private sector involvement in decision-making about training, the sources of funding, public policy objectives of public-financed training programs, targeting of training, integration of the training system with the formal education system, and discusses competition in training provision.

So far, we have seen that there are really two types of organizational patterns for training in the region. Jamaica and the Dominican Republic have focused on the institution-driven, apex training agency concept (albeit with large distinctions between them), while St. Lucia, Barbados and Trinidad and Tobago have had a more dispersed or fragmented structure with more politically-driven arrangements. Trinidad and Tobago and Barbados increasingly view training as a tertiary activity, and Trinidad and Tobago's focus on increasing its tertiary system is quite apparent. The on-going institutional consolidation of programs within the new Ministry of Science, Technology and Tertiary Education and placement of training institutions under COSTAATT may create a perception that greater coordination is now possible (see Box 1) and suggests that Trinidad and Tobago is moving forcefully toward more central coordination as a means of increasing relevance and, ultimately, more synergies that can enable an improved contribution to productivity. The challenge with this approach is that these overarching structures govern institutions with a history of some amount of autonomy, and the problems of a common framework for measuring performance come into prominence. Finally, while this is an interesting development, it reflects the fact that ministry portfolios are subject to change and do not have some of the strengths of a national legal and financial framework for training in terms of institutional capacity development over the time it takes to establish a coherent, effective and efficient system. The ILO and Márquez (2002) and many other

experts argue that training agencies should be within the labor ministry, as is the case with INFOTEP. This would not appear to be a likelihood within the English-speaking Caribbean and is not much discussed. Regardless of ministry location, the important need is for coordination of both private sector and education sector involvement in a coherent education and training system.

In Jamaica, the HEART Trust/NTA system is dominant and the institutions and centers are quite clearly subordinate to the headquarters and its management and monitoring systems, which are increasingly measuring performance indicators that matter. With its subvention-funded projects, it applies the same

Box 1: Portfolio of the Trinidad and Tobago Ministry of Science, Technology and Tertiary Education

Distance Learning
National Accreditation System
National Apprenticeship System
National Skills Development Program
Dollar for Dollar Education Plan
Science and Technology Policy Formulation
Technical/Vocational Training
Trade Schools
Board of Industrial Training
Trinidad and Tobago Institute of Technology
National Energy Skills Center
National Training Agency
Trinidad and Tobago Hospitality and Tourism Institute
University of the West Indies
- School of Continuing Studies
National Institute of Higher Education (Research, Science and Technology)
College of Science, Technology and Applied Arts (COSTAATT)
- John Donaldson Technical Institute
- San Fernando Technical Institute
- Eastern Caribbean Institute of Agriculture and Forestry (ECIAF)
- Joint Services Staff College
- Government Vocational Center
- Business Management and Information Technology Division: College of Health Sciences, College of Nursing: General Education Division: School of Languages

Enterprises

Metal Industrial Company Limited (MIC)

Wholly Owned Enterprises

YTEPP

Source: http://www.gov.tt/downloads/Assignment_to_Ministers.pdf

standards and expectations as it does of its own operations. The Community Colleges partner increasingly with the Trust and the agency is financing the implementation of NCTVET competency standards in the schools. The political structure of training in Jamaica is very much centered in the Ministry of Education, with the system there rather segmented between the post-secondary and tertiary levels, and its location within the Ministry of Education might be viewed as a disadvantage in terms of linkages to industry. HEART Trust/NTA's quasi-independence, especially financial, provides scope to compensate for this, however.

INFOTEP is providing most of its training through non-INFOTEP providers with a regionalized structure featuring an INFOTEP center and a network of collaborating centers, and is showing a healthy response to the idea of diversifying training provisions. Its location within the Ministry of Labor is consistent with the regional pattern and the ILO view of where training agencies belong.

5.1 Resource Management

As noted above, as Trinidad and Tobago has concentrated programs within one Ministry, and since INFOTEP and HEART Trust/NTA already concentrate resource management, the emphasis has been on more centralized resource management in the region. For the most part, however, and the Dominican Republic is an exception, the resources are going to the state-owned and operated institutions and programs. The diversification of the kinds of providers is occurring in Jamaica, but the amount of financing of these providers is not all that great, and most of the subvention-funded projects are through community groups and NGOs, rather than new private sector providers competing in a training market. In St. Lucia, resource management remains in the Ministry of Education and in Barbados it is split between Education and Labor.

5.2 Private Sector Involvement in Decisions

The tri-partite structure of INFOTEP and its institutionalization by law lays a firm foundation for private sector involvement, but the very formality of the arrangements gives a cumbersome appearance that may be an inefficiency and source of delay in responding quickly to changing circumstances. Its close involvement with firms, however, probably is the strongest point in defining private sector involvement in decisions.

HEART Trust/NTA organizes private sector involvement through a variety of mechanisms, but there is less formal power for enterprises. Its politically appointed Board includes the head of the Jamaica Employers Federation, and a representative of the Private Sector Organization of Jamaica, but these are appointments of the Minister of Education and not a requirement of the law. The trade unions have a representative on the NCTVET, industry partners work with the NCTVET to define occupational standards, and private sector representatives generally chair the management committees of the institutions.

Trinidad and Tobago's institutions, especially the National Energy Skills Center and Metal Industries Center are especially linked to industry, but the actual power resides in the Ministry and the agencies. Increasing the industry linkages of other training institutions and centers themselves is the key issue here. Employers, workers, students and institutions need to work together, if training is to boost productivity and competitiveness.

There is not much involvement of labor unions or workers organizations in training programs in the English-speaking Caribbean. The placement of training agencies and institutions within Ministries of Education may be an inhibiting factor, but declining union representation of the workforce and the low amount of attention to training issues in collective bargaining are also factors.

5.3 Policy Objectives

As noted by Gill et al (2002), training "systems" have a lot of competing objectives presented to them. Implicitly, they exist to supply skills for business and industry (the economic purpose) and to help young people make the transition from school to work (the social function). But vocational training institutions are also expected to be tools to attract investments, a mechanism to promote positive labor relations, correct supply and demand imbalances in the labor market, compensate for poor secondary education as an alternative route to the labor market, and to provide opportunities for women, the disadvantaged and the handicapped, and other special needs groups.

The policy objectives of training are not always articulated and practice may not conform to the stated objectives; nevertheless, it would appear that for the Dominican Republic, there is a degree of resemblance between behavior and the inherent objectives. The objectives for INFOTEP are translated as "to supervise the national system of vocational training for productive work to develop the

workforce and improve productivity of firms". In conjunction with its formal relationship with the Supervisory Confederation representing industry's 16 associations, there is also a function to promote harmonious labor relations.

HEART Trust/NTA's stated objectives are to create a certified workforce that contributes to improved productivity, to stimulate employment-creating investments, although its purpose and origin in promoting youth opportunities cannot be overlooked. Quite recently Jamaica also began emphasizing the promotion of certification of the members of the workforce and is now launching initiatives to promote this.

Policy statements are less definitive in other countries and must be inferred from behavior. Trinidad and Tobago is emphasizing expansion of tertiary education and implementing various new programs to connect job seekers to education and training opportunities.

In Barbados and St. Lucia the objectives seem less defined and documentation of the total "system" objectives could not be found.

It should be pointed out that the English-speaking Caribbean has always been ambivalent about vocational training; there is a strong bias against what is still viewed as manual labor and in favor of the professions. This is against a background of labor exploitation in the slavery and colonial periods, and continues today in terms of sharp distinction in social status between staff and line personnel. There remains a strong tendency among the populace to see vocational training as second-best, and this results in an underlying tendency to see training within a political benefits context.

5.4 Targeting of Training

The largest target of the INFOTEP, according to its outputs, is the existing workforce. Over the last five years about 44 percent of output is from programs inside firms, 46 percent of beneficiaries are wage earning workers, and the older age profile of participants are all evidence of this targeting. The participation of women in training is increasing, possibly related to INFOTEP's training aimed at the apparel sector. The programming appears to be emphasizing increasing training in information technology, hospitality and programs aimed at the employment in the Free Zones.

Jamaica targets youth who have completed secondary education, but do not have sufficient subject passes to enter the tertiary system. Women are 57 percent

Table 5.1 Governance of Training in the Caribbean

Country	Resource management	Private sector involvement in decisions	Source of funds	Policy objectives	Targeting of support	Governance and linkages with education system
Dominican Republic	INFOTEP	Strong tripartite arrangements	1% Payroll Levy; ½% of workers' bonuses	Effective labor relations Supplying skills to industry Stimulating growth in Free Zones and Tourism	Industry and services workforce	
Jamaica	Mostly HEART Trust/NTA	Moderate and increasing Partnerships Industry Training Lead Groups; Training Centre Management Committees	3% Payroll Levy	Stimulating employment-creating investment; Reducing youth unemployment Workforce certification	Unemployed youth without secondary qualification. Tourism and information technology sectors	HEART Trust and NCTEVT; increasing participation of secondary schools and community colleges, but proposed NQF not yet established
Trinidad & Tobago	Min. Science, Technology & Tertiary Education, COSTAATT as institutional umbrella, NTATT as coordinating body, Min Youth & Community Development	Consultative	Government budget	Emphasis is on increasing tertiary opportunities, assisting industry, opportunities for youth in YTEPP and NSDC; new on-the-job training program	School leavers Disadvantaged youth	Training viewed as tertiary education, but CXC, NVQ and NEC compete and do not articulate effectively.

Country	Resource management	Private sector involvement in decisions	Source of funds	Policy objectives	Targeting of support	Governance and linkages with education system
Barbados	Ministry of Labor-TVET Council & Vocational Training Board; SJPP and BCC—Min. of Education	.5% of payroll; .5% of employee earnings administered within National Insurance	Government budget	To support and encourage the creation of employment of acceptable quality. To ensure adequate supply of trained manpower in occupations in all branches of economic activity.	School leavers, unemployed youth, Tourism & Hospitality, Information Technology, Service Sectors	Articulation between training system and tertiary system not yet established. NVQ just being introduced and may facilitate articulation.
St. Lucia	Ministry of Education, Youth, Culture & Sports	Low	Government budget	Assisting young persons to transition to labor market		Training system is part of education system, but is not a "system"
OECS	OERUpromotes implementation of TVET Councils; influences use of donor financing	Not applicable				Supports TVET reform in relation to CARICOM Strategy

Source: Compiled from various sources by author

of enrolment. As the system evolves, entry requirements are being more closely defined for higher-level training programs. Some programs are offered to distinctly disadvantaged groups including persons with disabilities, street children, teenage mothers, and other vulnerable groups. Entry into more highly reputed institutions is rather competitive, and several programs take the most highly qualified and polished learners.

Trinidad and Tobago is currently mainly targeting school leavers who can matriculate into its tertiary offerings, while offering vocational programs via YTEPP, SERVOL and the YDACs to the disadvantaged youth. The programming emphasis there is increasingly oriented toward more ICT offerings, industry skills in energy and manufacturing, and tourism aimed at Tobago.

Barbados and St. Lucia both appear to target school leavers and unemployed youth and are focusing on tourism and hospitality, information technology, and services sector jobs.

5.5 Competition in the Provision of Training

True competitive provision of training has not taken hold in the region. Where training provision could be financed on a competitive bidding basis, i.e. at INFOTEP and HEART Trust/NTA, the tendency has been, rather, to diversify the providers by developing partnerships in which new providers offer training services, usually at lower costs than the agency-operated institutions. This has allowed training opportunities to be offered where none were before and has helped to expand access. In Jamaica this is done on a project basis with providers making reasonable proposals to offer training in desirable skill areas and in desirable locations.

As training opportunities expand and in relation to the revenues generated by training levies, it is to be expected that, over time, more pressure will build to move toward competitive bidding. In the Jamaica scenario, the training agency promotes the idea of providers offering the NCTVET "curriculum" (the standards and assessment procedures leading to NCTVET certification). As providers take up the approach being promoted, the unfair advantage of the HEART Trust/NTA-operated institutions will become noticeable and the demand on the three percent funds will increase from these providers. HEART Trust/NTA also can see that it needs more cost-sharing at all levels, along with methods to determine financial need.

Despite the absence of formal competitive procedures in the financing of training, some measure of competition resides in the performance monitoring systems of the apex agencies, which clearly exercise the option to discontinue ineffective programs, and to use benchmarking to improve the performance of training providers. Benchmarks can be set for enrolment, completion and certification targets, for example. In HEART Trust/NTA performance incentives accrue to workers who achieve targets.

6. Regional Approach to Training in the English-speaking Caribbean

This section briefly summarizes the on-going work within the Caribbean Association of National Training Agencies, CANTA. Further, the paper presents and evaluates the possibilities for future collaboration and national qualification frameworks in the Caribbean, including considerations regarding the feasibility and desirability of a common, open market for provision of training in the region. It concludes with a discussion of information, research, planning and human resource development for the region.

6.1 The Caribbean Association of National Training Agencies

As introduced earlier, several countries in the English-speaking Caribbean including Barbados, Jamaica, the OECS/OERU, and Trinidad and Tobago have entered into a Memorandum of Association that establishes the Caribbean Association of National Training Agencies, CANTA. This association is intended to be a platform to share occupational standards, and to provide for mutual recognition of technical and vocational certificates. Implicit in this mutual recognition is the common approach to organizing training programs based on occupational standards pegged to employment at five levels of responsibility, accountability and autonomy, and based on the use of "authentic assessment" methods. This is intended to facilitate the implementation of the free movement of skilled labor provisions within the Caribbean Single Market and Economy (CSME). A working committee of CARICOM is presently trying to solve the questions related to the free movement of skilled workers, having already established provisions for professional, entertainment, and sport personnel.

At present, each country has its own National Vocational Qualification Framework, and an attempt in 2003 to harmonize them resulted in a proposed Caribbean Regional Qualifications Framework. These different frameworks are included in the Appendix.

Jamaica, as the most advanced and well-resourced NTA, is taking on the responsibility to operate a Secretariat for CANTA. A Conference in Jamaica is planned for early December 2004 entitled ***Workforce Competitiveness for Regional Integration***. This is intended as a CANTA platform for promoting the workforce education and training concepts espoused by the different national training agencies and TVET councils, i.e. the framework for training based on occupational standards, organized into five levels of employment, assessed according to competency-based principles, and intended to provide an articulated pathway from level to level.

HEART Trust/NTA and NCTVET have provided a considerable amount of technical assistance to Bahamas, St. Lucia, Guyana, St. Vincent and the Grenadines, and Grenada. The NCTVET actively certifies personnel, mostly in Early Childhood Care, Education & Development, to the Bahamas, St. Lucia, and St. Vincent and the Grenadines. There is a plan now being implemented to assess and certify 378 persons in a variety of skill areas in six OECS countries.

Jamaica has instituted important changes in the way it structures standards and provides assessment, moving toward the Australian and New Zealand models. The NCTVET's National Qualification Register (www.nqrjamaica.org) contains the standards, and how the different unit competencies are built into qualifications. There are currently 1071 unit competency standards and 128 qualification pathways listed on the site, as well as information on Accredited Training Organizations (ATOs) and Registered Assessors. The number of standards and qualifications should almost double by next year. The NCTVET is decentralizing the process of assessment in Jamaica, with its own agents now functioning as quality assurance personnel, this after seven years of operating a centralized system. To continue certifying individuals from other countries, however, the capacity of NCTVET to coordinate and provide these services, despite its centralization in Jamaica, needs to be considered. After all, it is not likely to be efficient for every OECS country to have its own certification apparatus.

6.2 National Qualification Frameworks and a Regional Qualification Framework

Countries taking lifelong learning and the recognition of skills development seriously including the U.K., Australia and New Zealand have adopted the concept of a national qualifications framework (NQF) in efforts to create a more

Box 2: What is a National Qualifications Framework?

The development of national qualification frameworks (NQFs) represents one of the main initiatives in addressing the challenges of qualification reforms. An NQF is essentially a framework which classifies and registers qualifications, according to a set of nationally agreed standards/criteria for levels of learning/skills obtained.

An NQF needs to be distinguished from a national qualification system which broadly encompasses the combination of all qualifications available in the country and the institutions, processes and mechanisms which support the provision of qualifications. An NQF should not be regarded, however, simply as a matrix that indicates how different qualifications relate to each other. An NQF is defined also by distinctive ways of developing, organising and providing qualifications. In an NQF, qualifications consist of a set of nationally agreed standards/criteria which are classified at different levels. Qualifications are provided on the basis of obtaining competencies (or expected learning outcomes) stipulated by these standards.

This means that gaining a qualification is no longer associated with "what goes into the learning" whether it is a specific learning time, place, or instructions of particular education or training institutions. An NQF yields a pattern of learning that is not bounded by time or location but which can better support learning across different learning pathways (i.e. academic and vocational), or integrate formal and non-formal learning, notably learning in the workplace.

In Focus Program on Skills, Knowledge and Employability, ILO, 2004 at
http://www.ilo.org/public/english/employment/skills/recogn/4.htm

seamless connection between learning in school, learning at work, learning skills at different levels, and learning across industries. There is evidence that the reforms to Australia's training system have increased the number of persons with qualifications and increased the number of qualifications per person, while bringing a significant number of older workers, rural individuals and members of minority groups (Karmel and Nguyen, 2003).

Within an NQF, the most important feature is that the way programs are developed ensures the relevance of training to labor market needs.

At present, Jamaica has launched its concept of an NQF for Jamaica (see Appendix), but this is quite new, and it faces challenges in gaining acceptance for the framework, especially within tertiary education. Tertiary institutions have resisted the NQF in Australia and New Zealand, as they tend to object to the prescriptive assessment procedures.

The certification frameworks of the NTATT and the TVET Council are essentially similar to Jamaica's NQF. There are minor variations in how the levels are described, and minor variations in the naming of qualifications at different levels. This can readily be sorted out, and a preliminary effort was made to achieve this via CARICOM last year (see Appendix).

6.3 Information, Research and Planning

Conducting this overview of training in the region has highlighted the information gaps that exist in the region and the challenges of information management, storage, retrieval and sharing. In Trinidad and Tobago and in Barbados there is no central repository of information on training. This is related to the independent operation of training programs by the Ministry of Labor and Ministry of Education in Barbados and the positioning of the NTATT in Trinidad and Tobago to deal with skills training, but not skills training in the tertiary sector, even though all of this is concentrated in the Ministry of Science, Technology and Tertiary Education where NTATT is also placed. St. Lucia is less fragmented because the training is concentrated in the Ministry of Education.

The labor market information that is available is usually inadequate for the effective planning of training programs. In general, national labor market surveys are conducted using sample sizes that only allow for disaggregating the data down to the level of employment by sectors and broad occupational groups. In other words, one can see changes in labor demand in construction or tourism,

or in technicians or clerical workers, but one cannot tell how many computer programmers there are, or how many electricians. A number of initiatives to establish effective and useful labor market information systems have fallen short of expectations in Jamaica, Barbados and Trinidad and Tobago.

Key targets for growth, e.g. information technology and tourism, are not effectively isolated in the data. Only a limited amount of the data collected is actually published, and it is not generally possible to obtain the raw data from the statistical agencies. The statistical data emphasis, in general, is on macroeconomics, education and poverty, not on labor markets and training.

Training agencies conduct sector studies, tracer studies and employer surveys, but the frequency and timeliness of these studies is variable and limited by resource constraints. Trinidad & Tobago's NTATT is currently conducting a tracer study of secondary school leavers, a training providers' survey and an employer survey on training needs, the National Skills Needs Assessment. HEART Trust/NTA conducts tracer studies, sector studies and employer surveys regularly, but continues to struggle with matching offerings to labor market trends, because it simply cannot compensate adequately for a national labor data collection deficiency. There is no systematic research on the impact of training programs on productivity.

The amount, kind and level of research is also an issue as is the dissemination of research findings and their use to generate needed changes. This appears especially true in Barbados, Trinidad and Tobago and the OECS. INFOTEP and HEART Trust/NTA have some research capability, but the availability of the research is limited, there is not all that much of it, and much of it is more descriptive. Good training needs analysis in terms of sector studies is scarce, and the tracer studies have problems with response rates and the amount of explanatory analysis conducted on outcomes of training. Economies of scale of a regional approach might be indicated here as well as in provision of training.

Planning of training is a specialized field, and there is not much in the region that would prepare professionals in this field. The actual planning experiences suggest, however, that more formal planning processes, including developing consistent measures of the performance of training programs and their support services, has a substantial effect in improving the metrics of the training organizations. Introduction of Logical Framework methodology or the Balanced Scorecard approach shows potential to improve the year-to-year performance of the systems.

6.4 Development of Human Resources for the Training System

The human resources of the training systems are a vital element in ensuring their relevance and effectiveness. Finding instructors who both possess a skill and know how to impart that skill is a challenge, especially in some of the more traditional areas, as the basic academic achievement of instructors is low and is an impediment to the professionalization of these instructors. Most instructors, until a few years ago, had a diploma related both to the skill and to providing instruction. Many began as craft-persons and took a relatively short course on providing instruction. Now the prevailing view is that instructors or trainers need a bachelor's degree, but many of the trainers with the actual job skills lack the educational prerequisites to be regarded as tertiary material and therefore have difficulty matriculating into degree programs, and sometimes those with the degree lack the industry experience and exposure to know the skill and the industry sufficiently. Because of this, the systems have to put in place mechanisms to treat the problems and qualify instructors with non-traditional recognition (such as an NVQ and recognition of prior learning). Strong programs of periodic industrial attachment are a necessity, especially for the cadre of trainers that work in institutions and centers in the region.

As the technical demands on training systems have grown, the need to develop technical specialists with skills in standards development, designing assessments, developing training materials, planning, cost accounting, job placement, career guidance, etc. has become an important part of the work of the training agencies and certainly has provided scope for regional collaborative efforts. Several influential initiatives were undertaken by GTZ, for example in 2002-03 to expose the region to planning and training needs analysis methodologies, among other skills.

For managers, the VTDI in Jamaica has developed both a Management Development Program and a Leadership Development Program for TVET. Scope for regional participation is intended in the design and roll-out of these relatively new programs.

The biggest challenge of HRD for vocational training is that many of the staff have non-professional origins in the trades or as low level instructors, but also suffer from a lack of recent industry exposure.

6.5 Scope for a Regional Training Market

There is already a regional market for training, but it is quite small and often based on bi-lateral arrangements rather than upon students and learners looking for regional opportunities. The problem is that most of the institutions are not very large and all of their capacity is filled with local learners, and the cost structure is not conducive to participants from abroad.

The discussion of unit costs in Jamaica, however, shows how larger institutions may be more efficient and that larger institutions might provide more scope for regional participation, especially since specialized institutions may be more viable with a regional element from a financing point of view.

CANTA could be a platform for providing a set of consistent programs aimed at the professional cadres, possibly by establishing centers of excellence for particular areas. Exchange of personnel could also be particularly useful. For example, Trinidad and Tobago has some strong institutions related to manufacturing and industrial maintenance (MIC and NESI) that could strengthen the NTEI in Jamaica, while the Runaway Bay training hotel in Jamaica might assist other countries in how to operate an effective training hotel.

7. Some Conclusions, Considerations and Recommendations about Training and Productivity in the Region

7.1 General Conclusions and Policy Messages

The question addressed by this section is the extent to which the stakeholders in the region: governments, private sectors, and workers' associations have succeeded in promoting improvements in productivity and competitiveness through training. The main findings and policy messages of the study are summarized in Table 7.1 below.

First, the study finds the region has a trainable workforce and that a significant amount of training is taking place both in the firms and through the public sector financed programs. While it is almost self-evident that training in firms is conducted to improve productivity, the public sector provisions do not necessarily stress this factor, but are tilted toward institutional training of young people acquiring a qualification and gaining a foothold in the job market. Productivity needs to be placed more centrally in the policy objectives of training programs. New programs in St. Lucia and Trinidad and Tobago for on-the-job traineeships are responding to this issue. And although the workforce appears trainable, there remains the problem of large numbers of educationally under qualified individuals throughout the islands, who do not appear to be ready to benefit from training programs that are relatively short and which cannot compensate for the educational and social deficits these individuals bring to the training situation. There is a tendency to view government-training programs as compensatory devices for deficiencies in the education system, but the evidence does not suggest that this works. Training mainly benefits those with a stronger secondary education background. This finding suggests that training policies should reconsider the emphasis on the unemployed youth, who need more education

Table 7.1 Main Conclusions and Recommendations

Issue	Available Data/information	Policy Message/Recommendation
Prevalence of Training	Trainable workforce, and Quite a lot training is taking place (Marquez)	There is an important potential for training as a productivity policy
	Training benefits the medium-high and high skilled workers	Training is not a substitute for education, rather a complement
Policy objective of public training policy	Youth and unemployed (except DR)	Express and emphasize productivity as a goal of training
	A large share of public training is geared towards provision of basic skills (with unsatisfactory results)	Increase importance of enterprise training
Outcomes and Financing	Basic skills and youth-oriented training have limited success	Improve effectiveness, efficiency and outcomes
	Firm training differs from public (complementary training of already skilled workers)	Gradually move towards a separation of financing/regulation and provision
	Sufficient funding is flowing into training (average of a world standard)	Increase involvement of private sector (one way is direct cofinancing, which would also increase finance)
	Little evidence on outcomes	Increase use of Monitoring and Evaluation
Regional Cooperation	Evidence of economies of scale in provision	Move towards the Single Market for training and labor (using CANTA): Strong unified national regulator/certifier of training Common recognition (common NQF) to assure labor mobility Single market for training to increase efficiency through competition (prerequisite: separation of financing/regulation and provision)

(at lower cost than training), and re-focusing actual training on productivity of firms. Since the training in firms looks different from institutional training and relates more closely to productivity, it is possible to modify policies about financing training, as in Barbados, to improve cost-sharing in a clear and consistent manner that firms can understand and manage.

Second, the outcomes of public sector training programs in terms of employment and wages are not particularly convincing. The outcomes require closer study throughout the region via more effective monitoring and evaluation such as tracer studies and employer surveys. More attention to the effectiveness and efficiency of training is indicated, with a clearer focus on the outcomes of improved chances of employment and improved earnings to the beneficiaries. In addition, the effects of training programs on productivity are not researched-either in relation to institution based training or on-the-job and in-service training.

Third, the larger issues for financing relate to the need to move toward a separation of the financing and regulation of training from the provision of training. INFOTEP has moved more forcefully in this direction than has HEART Trust/NTA, although progress is being made there as well. It is equally important that the regulation supports the financing policies by rewarding success and quality while eliminating poor programs through effective monitoring and management systems that apply the same standards to various providers. Also in the area of financing, more private sector partnerships will increase resources and ensure relevance.

Finally, in the area of regional cooperation, based on the evidence that economies of scale accrue to larger institutions, the English-speaking countries should explore possibilities for further integration of the training market as part of the CSME provisions that plan for the integration of the labor markets. This will require the agreement on the qualification framework, along with much more political and social support for the idea, and then upon the strengthening of the national bodies that regulate and certify training outcomes (the national training entities). Introducing more competitive practices into the national systems would also be a necessity, but this will require progress on the separation of financing and regulation from operation of training programs.

7.2 Country Conclusions and Policy Messages

The Dominican Republic appears to have achieved a better mix of stakeholder involvement, linkages with industry and diversification of providers than is true elsewhere. It may be argued that its governance in terms of its formal structure and relationship to the Labor Ministry are reasons for this. INFOTEP also has done a good job of integrating youth into the system without a youth orientation dominating its agenda.

For Jamaica, the main issues are its present arrangements of both financing and regulating training while also operating the bulk of the system directly and relying on high cost institutional training. Jamaica also has the over-emphasis on youth and unemployment and an under-emphasis on productivity and training of existing workers in firms. The governance issue, that its Board is mostly political, that industry and worker associations are not formally embedded in the governance, is another main weakness.

Barbados features a low amount of provision in terms of capacity and current enrolment and very high costs and expenditure for this output. The analysis shows that with the amount of financing reported, they could train many more workers than they do at present, if they rationalized the financing to improve access. Barbados could explore establishing traineeship, which has shown effectiveness in other countries. The role of the Barbados TVET Council and the use of the ETF could be strengthened as well, but this requires coming to grips with the fragmentation of training provisions in Barbados.

In St. Lucia the analysis shows relatively high access and expenditure; the issues involve the fragmented arrangements and governance of the system, as well as the basis of the training in standards. The new TVET Council has yet to gain much momentum and its role and specific function and influence are not yet apparent.

Trinidad and Tobago, in placing almost all the training under a somewhat new ministry with responsibility for tertiary education, faces the challenge of improving the relevance of a tertiary system, and avoiding the risk that some very well regarded institutions take on characteristics incompatible with their training purpose. However, this is a bold step and the linkages with science and technology hold a certain promise for synergies, but only if it can effectively regulate and manage the institutions. The reintroduction of the NEC exams appears to be a retrograde step if we consider the standards-based approach used

by the NTATT that can fit into a regional framework for training, certification and labor mobility. The split between youth oriented programs like YTEPP and tertiary programs like SFTI and MIC, without articulation (based on standards) is a final problem area. Again, the NTATT could play an important role in the process of integrating different kinds of offerings, but only if it is mandated to do this and the tertiary institutions and MSTTE cooperate. It is difficult to see the tertiary institutions becoming more relevant without this kind of approach.

7.3 Issues for the English Speaking Caribbean

All the English-speaking countries have a youth problem to deal with, and the continued commingling of youth rehabilitation with training for employment will pose a problem for training in the service of productivity. Jamaica's new and separate-from-training Youth Development Program (with assistance from the IDB), will feature further education and developmental programming, as well as a new high school equivalency being developed with the NCTVET, as compensatory programs intended to be an entrance pathway to training programs.

In addition to separating issues of youth development from training, they need to examine and strategize about how to be less institution and center-based and to get more activity going between enterprises and training institutions, or within firms themselves. Finally, too much of the training is too short to provide the level of skill that firms are requiring; this contributes to poor outcomes.

The countries also need to find ways to upgrade existing workers—both in terms of skills, and in terms of educational competencies. Adult learning providers have yet to have much of an impact on working individuals, and are only slowly making a transition out of literacy training to workforce development, but they have a role to play there. There is need for more regionally relevant adult learning materials that can be used on a computer. Both the high school equivalency concept and the unit competency framework in Jamaica are relevant to worker upgrading.

The need to assist firms in conducting training needs analysis and developing training plans also emerges, but these services are modest in amount, and there is not the sense of an effective methodology in use. Cooperative training, where firms work directly with institutions, is occurring in the effective institutions, but is not really a general policy and an embedded practice.

Increasing access to training involves both developing more training opportunities in Barbados, and Trinidad and Tobago and coming to grips with the issue of cost sharing. To have more training opportunities, encouraging and financing on-the-job traineeships is a step in the right direction. The other issue is cost sharing. If those who can afford to pay moderate amounts can be made to pay, there is scope for increasing access. The problem here is (1) the need for effective needs testing instruments and capability to administer them, and (2) the political will to implement new cost-sharing policies. Certainly for HEART Trust/NTA, there are many learners who can pay moderate amounts. Perhaps student loan funds can be mobilized for good quality training programs, while financial assistance programs could aid the low-income learners. Cost sharing would also encourage a more adult orientation and would allow for the diversification of providers in the system to include other-than-government providers.

Improving relevance involves better labor market analysis and planning, as well as institutionalized linkages to industry. The planning aspect is to get the right kind of programs in place and the right mix of skills, while the linkages allow for a standards-based approach, to deepen mutual understanding and forge relationships between providers and firms. The lead groups and similar structures for working on standards together is the correct way, as is private sector involvement on institutional governance bodies. On the other hand, training providers need to look at how to package courses and promote them to firms and workers, including courses that address typical weaknesses in areas like communication skills, teamwork, problem solving, writing, project management, and other cross-industry competencies.

To improve effectiveness, coordinating and management bodies need to establish common benchmarks of performance of training programs, put measurement and information systems in place, and then manage the metrics to improve performance. More formal annual planning processes show effectiveness in improving performance in training systems.

Efficiency improvement involves a number of policy considerations:

- Ensure that higher cost training programs deliver the desired labor market outcomes—high skill/high wage jobs.
- Deliver more of the high cost training with distance modalities.
- Find lower cost training solutions for lower-end jobs.

- Increase the amount of work-based training and on-the-job training—potential for cost sharing and improved relevance will pay off in efficiencies.
- Continue the development and implementation of recognition of prior learning within a well-promoted skill recognition framework like national qualifications. Promote flexible learning pathways that allow for learning at work and in learning institutions and programs, including self-study.
- Use partnerships with communities, NGOs and industry partners to expand and improve the quality of training offers and deal with special needs.
- Explore regional partnerships and synergies that optimize the use of institutional resources toward higher value-added training.

The region has not yet moved into new financing strategies discussed, for example, in the World Bank's Lifelong Learning in the Global Knowledge Economy (2003). Table 7.2 is included below to illustrate the many financing options that may have relevance to the regional situations.

Table 7.2 Cost-Sharing and Subsidy Mechanisms for Financing Lifelong Learning

Instrument	Description	Main variables	Strengths	Weaknesses	Examples
Cost-sharing mechanisms					
Traditional loans	Fixed payments, specific period of time	Amount borrowed Interest rate Repayment period	Easy to implement; Easy to understand	Require collateral, so benefits wealthier; Not attractive to students; Does not adjust to capacity to pay; Poor collection record	Jamaica and numerous other countries
Human capital contracts	Learner commits part of future earnings for fixed period in exchange for financing education	Percentage of future income to be repaid Repayment period Collection of payments	Creates market for those investing in skills; Decreases default risk Offers measure of expected value of education; Payments adjust to earnings capacity, equitable	Information on individual difficult to obtain; Requires developed tax collection agency (or similar); Adverse selection; Could create disincentive to work	United States
Graduate tax	Tax on future earnings of learner undertaking education	Tax rate	Universal, flexible, payments throughout lifetime of individual	Requires developed tax collection agency (or other agency able to collect taxes); Equal treatment of all earnings could create dis-incentive to study; No private funding	None

Instrument	Description	Main variables	Strengths	Weaknesses	Examples
Income-contingent loans	Collects percent of income until value of loan is repaid or maximum repayment period reached	Percent of future income to be repaid Repayment period	Decreases risk to individuals; Eliminates default risk; Equitable; Provides incentive to study	Requires developed tax collection agency (or other agency able to collect taxes) Does not reflect expected value of education	Australia, Ghana, Hungary, Namibia, New Zealand, Sweden, United Kingdom
Training levy	Payroll tax levied on employers, proceeds used to finance training	Tax rate Coverage Employer participation	Affordable; Sustainable	Requires bureaucracy Can displace training that would have taken place	Dominican Republic, Jamaica, Brazil, France, Hungary, Malaysia, Nigeria, United Kingdom
Subsidization mechanisms					
Vouchers	Channel public funds for public and/or private education to individual/family	Costs of schooling Target population-schooling level Demand-side financing subsidy level	Funding based on demand/enrollment; Efficient; Equitable	Sustainability Need to market Funds could be misused	Bangladesh, Chile, Guatemala, Netherlands, Pakistan, Sweden
Entitlements	Voucher and loan combination	Amount of entitlement (voucher and loan) Co-finance amount Repayment terms	Targets learners based on income and motivation; Helps build learners' assets Sustainable	Need to market Funds could be misused	U.S. GI Bill and Brazil's Bolsa Escola come close: numerous student loan schemes

Instrument	Description	Main variables	Strengths	Weaknesses	Examples
Individual learning accounts	Incentives for investing in education and training	Individual subsidy Co-finance amount Type of training	Individual responsibility Private sector participation	Need to market; Funds could be misused; Possibly lack of sustainability	Netherlands, Sweden (public and private initiatives), Spain (proposed), Switzerland United Kingdom (suspended)
Education savings accounts	Incentives for savings for education and training	Individual subsidy Co-finance amount Tax discount	Individual responsibility, build assets, targeted	Possibly lack of sustainability Need to market	Canada
Learning tax credits	Taxes reduced in proportion to spending on approved education and training	Tax discount Spending maximum	Individual responsibility Private sector participation	Possibly lack of sustainability May not promote equity	United States

Source: World Bank, Lifelong Learning in the Global Economy, draft, 2003.

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Appendix: Training Offered in the Caribbean

This section compiles a variety of information about training programs across the region with an emphasis on the training programs themselves. It also captures some of the detailed data included in the study and cites the location of various websites that are useful in obtaining more detailed information.

BARBADOS

Samuel Jackman Prescod Polytechnic

The Samuel Jackman Prescod Polytechnic was opened in January 1970 with both day and evening classes. The institution now has over 1,000 students and provides courses in electrical, building and engineering trades, commerce, agriculture and garment studies. The campus opened at Wildey, St. Michael in May 1982 with an additional faculty for Human Ecology including Cosmetology and Home Economics.

In addition to its regular students, the Polytechnic provides institutional training for apprentices of the Barbados Vocational Training Board.

Samuel Jackman Prescod Polytechnic Graduates

	2000	**2001**	**2002**
Male	620	330	480
Female	350	790	570
Total	**970**	**1,120**	**1,050**

BARBADOS VOCATIONAL TRAINING BOARD

Skills Training Programme (Completed Training)	2000	2001	2002
Air-Conditioning	-	-	14
Auto Body Repairs	16	15	19
Auto Mechanics	52	49	15
Electrical Installation	19	30	27
Leather-craft	15	8	5
Masonry	67	74	57
Needlecraft	43	28	12
Plumbing	46	70	24
Carpentry	78	65	45
Computer Applications	45	46	28
Bob Cat/Backhoe operation Skid-Steer Loader	40	36	24
Horticulture/Landscaping	13	7	N/A
Steel Bending and Fixing	19	20	14
Tailoring	15	10	18
Tractor Operations and Maintenance	-	47	38
Upholstery	22	23	27
Tiling	40	40	9
Wood Carving	-	10	N/A
Basketry and Rug Making	22	19	8
Screen Printing	9	8	13
Joinery	10	-	N/A
Welding	12	19	13
Cupboard Construction	33	20	16
TOTAL	616	644	426

http://labour.gov.bb/blmis2/WEBDOC/trends/profile_of_barbados.asp

Barbados Community College: http://www.bcc.edu.bb/

The Barbados Community College provides a range of programs in academic, vocational and technical areas and offers a number of Associate Degree programs and certificate programs. Divisions of the college include: fine arts, liberal arts, science, technology, health sciences and hospitality studies. The more technical and vocational qualifications are listed here.

- ASSOCIATE DEGREE IN APPLIED SCIENCE ARCHITECTURAL STUDIES- 2 YEARS
- ASSOCIATE DEGREE IN BUILDING AND CIVIL ENGINEERING TWO YEAR PROGRAMME (FULL-TIME)
- ASSOCIATE DEGREE IN APPLIED SCIENCE ELECTRONICS (FULL-TIME)
- ASSOCIATE DEGREE IN APPLIED SCIENCE ELECTRONICS THREE YEAR PROGRAMME (PART-TIME)
- ASSOCIATE DEGREE IN APPLIED SCIENCE ELECTRICAL ENGINEERING
- ASSOCIATE DEGREE IN APPLIED SCIENCE LAND SURVEYING
- ASSOCIATE DEGREE IN APPLIED SCIENCE MECHANICAL ENGINEERING
- ASSOCIATE DEGREE IN APPLIED SCIENCE CULINARY ARTS
- ASSOCIATE DEGREE IN APPLIED SCIENCE HOTEL CATERING AND INSTITUTIONAL OPERATIONS
- ASSOCIATE DEGREE IN APPLIED SCIENCE TOURISM AND TRAVEL

NON-ASSOCIATE DEGREE PROGRAMMES

- APPRENTICE CHEFS PROGRAMME
- FOOD AND BEVERAGE OPERATIONS
- PROFESSIONAL BASIC COOKS
- PROFESSIONAL HOUSEKEEPING

Barbados Hospitality Institute
Website: http://barbados.org/hotels/marine/index.htm

Programs offered at Barbados Hospitality Institute

BACHELOR OF SCIENCE

- Hospitality & Tourism Management

ASSOCIATE DEGREE IN APPLIED SCIENCE

- Culinary Arts
- Hotel Catering and institutional operations
- Tourism & Travel

NON-ASSOCIATE DEGREE PROGRAMS

- Apprentice chefs programme
- Food and beverage operations
- Professional basic cooks
- Professional housekeeping
- Professional waiting and bartending

Barbados National Qualification Structure

NVQs are classified into five (5) levels of competence, which correspond to the hierarchy of responsibility in the workplace.

Level 1	**Entry Level Foundation Skills** - Recognises competence in a range of varied work activities performed in a variety of contexts. Most work activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.
Level 2	**Skilled Occupations** - Recognises competence in a broad range of varied work activities performed in a variety of contexts, some of which are complex and non-routine. Some responsibility and autonomy. Collaboration with others through work groups or teams and guidance of others may be required.
Level 3	**Technician and Supervisory Occupations** - Recognises competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts and with personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing, and supervisory capabilities.
Level 4	**Technical Specialist and Middle Management Occupations** - Recognises competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of resources, as well as personal accountabilities for analysis, diagnosis, design, planning, execution, and evaluation.
Level 5	**Chartered, Professional and Senior Management Occupations** - Recognises the ability to exercise personal professional responsibility for the design, development, or improvement of a product, process, system, or service. Recognises technical and managerial competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contribution to the promotion and practice of their occupation.

DOMINICAN REPUBLIC

INFOTEP OUTPUT, TRAINING ACTIVITIES, AND HOURS OF INSTRUCTION BY SEX, ACCORDING TO OCCUPATION

1982-2001

OCCUPATIONAL FAMILY	TRAINING ACTIVITES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN*	WOMEN*
AGRICULTURAL MECHANICS	233	12,314	3,973	3,800	106
AGRICULTURAL PRODUCTION	1,623	90,825	28,239	19,613	8,626
HORTICULTURE	1	1,138	18	10	8
ANIMAL PRODUCTION	1,377	81,003	24,125	16,054	8,057
ACUACULTURE	15	904	273	139	134
WEAVING	28	2,532	273	235	38
SPINNING	5	363	39	36	3
DRESS MAKING	5,972	912,528	98,704	15,625	83,079
SHOE MAKING	138	16,956	1,947	1,174	773
LEATHERWORK	40	4,567	711	150	561
LEATHER FOOTWEAR	19	1,773	330	93	217
WOOD FURNITURE	884	301,031	12,778	8,578	4,187
WICKER FURNITURE AND RATTAN	41	6,877	619	196	423
GRAFIC ARTS	266	40,364	4,568	3,164	1,384
GENERAL MECHANICS	1,085	432,224	16,486	15,955	516
WELDING	858	215,516	13,176	12,866	287
LAMINATES	36	6,790	420	412	8
MECANICAL MAINTENANCE	444	73,403	6,803	6,487	316
SEWING MACHINE MECHANICS	294	76,709	4,779	4,318	461
SMELTING	4	280	35	35	-
INDUSTRIAL INSTRUMENTATION	1	4,284	17	17	-

OCCUPATIONAL FAMILY	TRAINING ACTIVITES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN*	WOMEN*
JEWELLERY & SILVER	18	4,190	289	242	47
VEHICLE MAINTENANCE	1,819	603,172	29,567	28,528	1,024
AUTOBODY & SPRAY PAINTING	350	131,612	4,983	4,837	146
ELECTRICAL INSTALLATION And MAINTENANCE	3,580	839,437	58,029	54,589	3,329
ELECTRONIC MAINTENANCE	1,516	289,189	24,739	23,658	1,081
REFRIGERATION & AC	805	199,206	13,179	13,022	157
TELECOMMUNICATIONS	11	725	198	112	86
MARITIME NAVIGATION	25	4,125	416	386	30
METALLURGY	1	2,322	7	7	-
INTERIORS DESIGN AND DECORATION	25	5,430	425	187	238
AUDIO-VISUAL	8	1,220	144	-	144
TOBACCO INDUSTRY	100	18,449	1,579	861	718
MANUALIDADES	284	34,804	5,133	686	4,447
CERAMICS	15	1,507	271	30	201
PLUMBING	332	41,773	4,233	4,020	213
BUILDING	89	17,506	1,305	1,252	53
CARPINTERIA OF CONSTRUCTION	55	2,056	393	328	65
CONSTRUCTION PAINTING	203	10,593	2,345	1,592	753
MAINT. AND CONSERVA-TION OF BUILDINGS	5	6,372	70	70	-
SECRETARIAL	579	32,073	9,907	1,392	8,515
ACCOUNTING	538	97,194	9,430	3,088	6,342
WAREHOUSING	140	6,821	2,398	2,044	354
HUMAN RESOURCES ADMINISTRATION	21	1,634	509	134	375
SALES	1,031	40,998	19,589	11,229	8,360

OCCUPATIONAL FAMILY	TRAINING ACTIVITES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN*	WOMEN*
BAR AND RESTAURANT SERVICE	1,573	211,254	24,707	14,883	9,773
KITCHEN	747	81,824	12,784	5,401	7,383
HOUSEKEEPING	460	38,647	7,558	1,350	6,208
HOTEL RECEPTION	167	23,431	2,732	939	1,793
BAKING & CONFECTION	1,196	163,327	22,433	2,199	20,234
HEALTH SERVICE	93	17,137	2,097	191	1,906
ODONTOLOGY	65	15,859	1,312	206	1,106
PHARMACY	58	5,868	1,284	199	1,085
INFIRMARY	2	953	42	18	24
COMPUTER	4,637	177,738	75,808	31,215	44,593
FIRE FIGHTING	3	1,149	70	51	19
BEAUTY & SALON	530	129,288	9,995	57	9,938
PROFESSIONAL PSYCHO-LOGY ORIENTACION	9	348	141	39	102
PHYSICAL THERAPY	173	24,036	3,451	486	2,965
ROAD SECURITY	536	5,082	9,826	9,231	595
DOMESTIC SERVANT	13	664	171	21	150
Sub-total	**35,176**	**5,571,394**	**581,862**	**327,737**	**253,736**
SEMINARS	5,130	44,352	117,387	65,969	51,343
OTHER COURSES WITH COMPANIES	8,840	157,287	162,045	88,354	73,559
FORMACION OF AVERAGE CONTROLS IN COMPANY	3,384	108,387	60,636	40,318	20,015
EDUCATIONAL FORMACION OF	864	89,497	13,495	9,170	4,325
AUDIO-VISUAL MATERIAL PRODUCTION	9	219	124	77	47
GENERAL TOTAL	**53,403**	**5,971,136**	**935,549**	**531,625**	**403,025**

* IT EXCLUDES THE INFORMATION BY SEX FROM 1982.

INFOTEP OUTPUT, TRAINING ACTIVITIES AND HOURS OF INSTRUCTION BY SEX, ACCORDING TO OCCUPATIONAL FAMILY 1988-2001

OCCUPATIONAL FAMILY	TRAINING ACTIVITES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN	WOMEN
ARTICLE PREPARATION TO DRESS	680	105,373	10,447	1,001	9,446
WOOD FURNITURE	271	128,095	3,923	2,569	1,354
ARTS GRAFICAS	7	930	126	120	6
GENERAL MECANICA	383	176,059	5,621	5,359	262
WELD	295	85,612	4,176	4,016	160
IT LAMINATES	36	6,790	420	412	8
MAINTENANCE MECANICO	217	32,379	3,314	3,182	132
MANT. MECANICO OF MAQUINAS TO SEW	97	24,937	1,474	1,388	86
SMELTING	4	280	35	35	-
VEHICULOS MAINTENANCE	558	201,281	8,802	8,385	417
DESABOLLADURA/ VEHICULOS PAINTING	206	97,650	2,767	2,698	69
INSTALLATION And MAIN-TENANCE ELECTRICO	447	138,591	6,938	6,807	131
MAINTENANCE ELECTRONICO	598	115,848	9,242	8,873	369
MAINTENANCE OF REFRI-GERACION And A/A	119	41,579	2,006	1,993	13
TELECOMMUNICATIONS	7	465	126	82	44
DESIGN And DECORATION OF INTERIORS	12	2,718	204	39	165
AUDIO-visual	8	1,220	144		144
CARPINTERIA OF CONSTRUCTION	1	48	9	9	-

OCCUPATIONAL FAMILY	TRAINING ACTIVITES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN	WOMEN
PANADERIA And REPOSTERIA	203	29,696	3,655	608	3,047
COMPUTER	238	12,453	4,503	1,320	3,183
Sub-total	**4,387**	**1,202,004**	**67,932**	**48,896**	**19,036**
SEMINARIES	16	216	1,030	1,030	
OTHER COURSES WITH COMPANIES	43	3,318	774	351	423
FORMACION OF EDUCATIONAL	249	20,693	3,395	2,829	566
GENERAL TOTAL	**4,695**	**1,226,231**	**73,131**	**53,106**	**20,025**

NUMBER OF COURSES AND HOURS OF INSTRUCTION BY SEX, ACCORDING TO YEARS
1982-2001

YEARS	COURSES	HOURS INSTRUCTION	OUTPUT		
			TOTAL	MEN	WOMEN
1982	50	5,129	899	685	214
1983	404	32,840	7,330	5,507	1,823
1984	566	51,852	9,521	7,181	2,340
1985	644	61,251	9,309	7,336	1,973
1986	636	60,967	9,566	7,125	2,441
1987	483	46,596	7,386	5,432	1,954
1988	822	74,176	12,725	8,593	4,132
1989	940	73,183	14,852	9,824	5,028
1990	1,106	113,728	16,209	10,659	5,550
1991	1,220	127,039	19,278	13,278	6,000
1992	1,441	178,459	22,774	15,287	7,487
1993	2,276	289,617	37,871	24,879	12,992
1994	3,204	373,110	52,600	31,337	21,263
1995	3,055	370,834	55,320	33,706	21,614
1996	3,321	495,888	58,488	33,426	25,062
1997	4,340	582,966	77,290	42,984	34,306
1998	5,141	644,108	92,656	52,161	40,495
1999	6,797	757,067	125,322	65,049	60,273
2000	8,310	807,300	149,122	76,560	72,562
2001	8,647	825,026	157,031	81,301	75,730
TOTAL	**53,403**	**5,971,136**	**935,549**	**532,310**	**403,239**

OUTPUT BY INSTRUCTION LEVEL, ACCORDING TO YEARS
1983-2001

YEARS	INSTRUCTION LEVEL *					
	TOTAL	LITERATE	PRIMARY	SECONDARY	COLLEGE STUDENT	WITHOUT INFORMATION
1983	7,330	6	2,505	2,027	441	2,351
1984	9,521	4	4,146	3,166	556	1,649
1985	9,309	167	3,332	3,059	549	2,202
1986	9,566	138	3,184	3,315	602	2,327
1987	7,386	92	2,135	2,647	376	2,136
1988	12,725	102	3,820	5,902	2,360	541
1989	14,852	157	4,961	6,467	2,785	482
1990	16,209	136	5,288	7,273	2,965	547
1991	19,278	67	5,549	9,217	3,521	924
1992	22,774	36	6,167	11,302	3,618	1,651
1993	37,871	994	10,656	19,153	6,779	289
1994	52,600	349	13,188	27,021	11,808	234
1995	55,320	315	12,474	23,379	9,774	9,378
1996	58,488	3,980	9,888	26,222	9,289	9,109
1997	77,290	3,623	13,665	34,879	12,466	12,657
1998	92,656	3,430	18,680	37,531	12,534	20,481
1999	125,322	3,876	29,989	70,704	18,556	2,197
2000	149,122	4,613	36,021	83,756	22,135	2,597
2001	157,031	4,950	38,432	87,574	23,403	2,672
TOTAL	**934,650**	**27,035**	**224,080**	**464,594**	**144,517**	**74,424**

*IT EXCLUDES OUTPUT FROM YEAR 1982 WITHOUT INFORMATION

INFOTEP COLLABORATING CENTERS—DOMINICAN REPUBLIC

Code	Name	Telf.	City
Southeastern Region			
000001	ASESORIA ENTERPRISE and MANAGEMENTAL, S.A.	541-7722	SANTO DOMINGO
000002	ESP ACADEMY, IN BEAUTY And EST. CHEZ	685-3044	SANTO DOMINGO
000003	ASESORIA, QUALIFICATION And TRAINING E	549-5580	SANTO DOMINGO
000004	To, b, c MANAGEMENT	-	SANTO DOMINGO
000005	COMMUNITARIAN ACTION BY THE PROGRESS	590-8570	SANTO DOMINGO
000006	ACADEMY OF BEAUTY And ESTETICA CESARINA	533-6087	SANTO DOMINGO
000009	CENTER PSICOPEDAGOGICO JERUSALEN, C X A	594-4196	SANTO DOMINGO
000010	COMMUNITARIAN CENTER OF LABOR FORMACION	530-5344	SANTO DOMINGO
000011	CENTER OF ESTETICA OF LEON	595-4964	SANTO DOMINGO
000012	CENTER OF FAMILIAR INTEGRATION	-	SANTO DOMINGO
000013	COMMUNITARIAN CENTER NELDA S. VALPIANA, IN	531-0680	SANTO DOMINGO
000014	CENTER TECNOLOGICO SANTIAGO APOSTOL	536-7701	SANTO DOMINGO
000015	SPECIALIZED CENTER OF INFORMATICA	699-6260	SANTO DOMINGO
000017	POWER STATION OF HUMAN RESOURCES EMPRESARIALE	689-5009	SANTO DOMINGO
000018	VERITAS SCHOOL	685-6649	SANTO DOMINGO
000019	UNIVERSAL CENTER OF TECNOLOGIA	221-3222	SANTO DOMINGO
000020	CENTER OF CONSULTORIA GNCIAL. Y ENTRENAMI	562-5778	SANTO DOMINGO
000022	CENTER OF TRAINING And P QUALIFICATION	687-2995	SANTO DOMINGO
000023	HERRERA PEREZ & CO.	537-5050	SANTO DOMINGO
000024	CONSULTANTS PSICOLOGIA And EDUCATION	-	SANTO DOMINGO
000025	VOLUNTARY FOUNDATION TROPICO FOR THE ONE OF	563-1054	SANTO DOMINGO
000027	FOUNDATION EDUCATION And DEVELOPMENT	-	SANTO DOMINGO
000028	DEMING:ADIESTRAMIENTO And ASESORIA COMPANY	596-4882	SANTO DOMINGO
000029	DOMINICAN SCHOOL OF INFORM. And TECNOLOG	596-1777	SANTO DOMINGO
000030	NATIONAL SCHOOL OF FINANCES And AUDIT	532-6377	SANTO DOMINGO
000031	NATIONAL SCHOOL OF HOTELERIA THOMAS COO	554-2756	HIGUEY
000033	NATIONAL SCHOOL Oscus-Saint VALERO	545-6086	SANTO DOMINGO
000034	SCHOOL TECNICA The Salle-infotep	-	SANTO DOMINGO
000035	NATIONAL SCHOOL OF INFORMATICA	-	SANTO DOMINGO
000036	DOÐA ANK OF SISTERS MERCEDARIAS	-	SAN CRISTOBAL
000037	ENC. OF CENTER OF INSTRUMENTATION And CONT	542-2065	SANTO DOMINGO
000038	DOMINICAN INSTITUTE OF TECNOLOGIA	687-4822	SANTO DOMINGO
000039	INDUSTRIAL INSTITUTE OF TECNOLOGIA	-	SANTO DOMINGO

Code	Name	Telf.	City
Eastern Region			
000007	QUALIFICATION FOR COMPANIES To H. (CAPEMS	526-7003	MACORIS SAN PEDRO
000016	CENTER OF QUALIFICATION TECNICA INMACULAD	533-8281	MACORIS SAN PEDRO
000021	CENTER OF ARTS And SPECIALTIES VIRGINI	529-7388	MACORIS SAN PEDRO
000026	FOUNDATION CENTER ACADEMICO NEW HORIZO	529-3030	MACORIS SAN PEDRO
000065	FACTORY VOCACIONAL OF PATRONAGE BENEFICO	550-4933	THE ROMAN
000068	CENTRAL UNIVERSITY OF THE EAST (UCE)	529-3562	MACORIS SAN PEDRO
000079	PROFESSIONAL INSTITUTE OF INFORMATICA	-	THE ROMAN
000080	HOTEL ESUELA MACORIX	-	MACORIS SAN PEDRO
000109	VILLAS OF SEA INTERNATIONAL SCHOOLS	526-3117	MACORIS SAN PEDRO
Northern Region			
000083	CENTER OF YOUTH And The CULTURE	575-6441	SANTIAGO
000084	COMPUTADO, S.A..	-	SAMANA
000085	CENTER OF EDUCATION And RURAL PROMOTION (C	685-0840	SALCEDO
000086	CENTER COMPUTACIONAL And SERVICES COMPANY	572-6616	VALVERDE
000087	COMTICEMSI COMPUTADORAS, S.A..	572-2006	VALVERDE
000089	COMPUTERIZED CENTER TECNOLOGICO MOLINA,	244-1188	MAC SAN FRANCISCO
000090	CENTER OF SOCIAL PROMOTION SAN JUAN BAUT	584-5773	PIMENTEL
000091	CENTER COMPUTACIONAL OF THE CIBAO	582-6900	SANTIAGO
000092	CENTER OF QUALIFICATION TECNICA DIFO	-	VALVERDE
000093	SPECIALIZED CENTER OF COMPUTATION, S.	581-9435	SANTIAGO
000094	INTEGRAL CENTER OF HUMAN DEVELOPMENT	580-5758	TAMBORIL
000095	CENTRO DE SISTEMAS Y TECNOLOGIA, S.A..	573-5141	THE FERTILE VALLEY
000096	SCHOOL YAQUE, INC..	583-1809	SANTIAGO
000097	FIVE STAR ENTERPRISES, LTD	573-4778	THE FERTILE VALLEY
000098	FOUNDATION DESIDERIO GOMEZ FOR THE DESARR	-	VALVERDE
000099	SUPERIOR INSTITUTE OF AGRICULTURE (ISA)	247-2000	SANTIAGO
000100	YOUTHFUL, INC. INTEGRATION.	586-2638	PORT SILVER
000101	L.M. INDUSTRIALES, S.A..	575-2121	SANTIAGO
000102	PROJECTS COMPUTERIZED (PROCOMPU)	581-8080	SANTIAGO
000103	PONTIFICAL UNIVERSITY CATOLICA MOTHER And	580-1962	SANTIAGO
000104	SAN JUAN PARISH BAPTIST	854-5773	PROV. DUARTE
000105	COMMERCIAL SOCIETY BEST COMPUTERS INSTIT	540-6084	SAMANA
000106	SERVICE And AUTOMOTIVE TRAINING QUIÐ	575-0533	SANTIAGO
000107	UNIVERSITY AGROFORESTAL FERNANDO To OF	574-5234	JARABACOA
000108	UNIVERSITY NORDESTANA (UNNE)	588-3151	MAC SAN FRANCISCO
000120	CENTENNIAL SCHOOL OF INFORMATICA	226-5556	SANTIAGO

www.infotep.gov.do/

TRINIDAD AND TOBAGO

http://www.stte.gov.tt/news/default.asp

John Donaldson Technical Institute
Head office Address:
Wrightson Road
Port of Spain
Tel: 625-1511/14

Courses Offered	Certification
Accounting-	Diploma
Accounting - Final-	Technicians Diploma
Accounting - Part I-	Technicians Diploma
Air Conditioning And Refrigeration-	Diploma
Air Conditioning And Refrigeration-	Craftsman Certificate
Auto And Diesel-	Craftsman Certificate
Autocad - Advanced-	Certificate
Autocad - Basic-	Certificate
Automotive Electronics-	Certificate
Bartending-	Certificate
Basic Air Conditioning And Refrigeration-	Certificate
Basic Analog And Digital Electronics-	Certificate
Basic Dressmaking And Design (Accelerated)-	Craftsman Certificate
Basic Electronic Fuel Injection-	Certificate
Basic Machine Shop And Welding-	Certificate
Basic Refrigeration And Air-Conditioning Repair-	Certificate
Basic Welding-	Certificate
Book Binding And Print Finishing-	Craftsman Certificate
Bread, Cake And Pastries-	Certificate
Business Management - Final (Ft)-	Technicians Diploma
Business Management - Final (Pt)-	Technicians Diploma
Business Management - Part I (Ft)-	Technicians Diploma
Business Management - Part I (Pt)-	Technicians Diploma
Business Management - Part II (Pt)-	Technicians Diploma
Cabinet Making-	Craftsman Certificate

Cake Decorating-	Certificate
Camera Operating And Copy Preparation-	Craftsman Certificate
Construction Carpentry And Joinery Practice-	Craftsman Certificate
Cooking-	Certificate
Curtain & Drapery-	Certificate
Desktop Publishing-	Certificate
Civil Engineering-	Endorsement Certificate
Civil Engineering - Final-	Technicians Diploma
Civil Engineering - Part A-	Technicians Diploma
Color Television Servicing-	Certificate
Graphic Design-	Technicians Diploma
Home Economics (Clothing And Textiles)-	Technicians Diploma
Home Economics (Food And Nutrition)-	Technicians Diploma
Dietary Technician-	Technicians Diploma
Dressmaking And Design (Advanced)-	Craftsman Certificate
Dressmaking And Design (Basic)-	Craftsman Certificate
Dressmaking And Design (Intermediate)-	Craftsman Certificate
Dressmaking For Beginners I-	Certificate
Dressmaking For Beginners II-	Certificate
Electrical Installation (Electrical Wireman)-	Craftsman Certificate
Electrical Installation (Industrial Electrician)-	Craftsman Certificate
Electrical/Electronic Engineering - Computer Technology-	Technicians Diploma
Electrical/Electronics Engineering - Full Time-	Technicians Diploma
Industrial Motor And Starter Servicing-	Certificate
Electrical/Electronics Engineering - Part A-	Technicians Diploma
Electrical/Electronics Engineering - Part B-	Technicians Diploma
Engineering Surveying-	Technicians Diploma
Executive Secretary-	Technicians Diploma
Executive Secretary - Part Time-	Technicians Diploma
Fabric Design-	Certificate
Interior Design-	Certificate
Jewellry-	Craftsman Certificate
Library - Final-	Technicians Diploma
Library - Part I-	Technicians Diploma
Machine Shop (Lathe Setter Operator)-	Craftsman Certificate
Machine Shop (Machinery Fitter)-	Craftsman Certificate

Machine Shop (Milling Machine Setter Operator)-	Craftsman Certificate
Food Preparation - Final-	Craftsman Certificate
Food Preservation-	Certificate
General Draughtsmanship-	Technicians Diploma
Microsoft Access-	Certificate
Microsoft Excel-	Certificate
Microsoft Word-	Certificate
Offset Printing And Platemaking-	Craftsman Certificate
Pattern Drafting And Design-	Certificate
Plumbing-	Craftsman Certificate
Practical Cafeteria Operations-	Craftsman Certificate
Printing - Final-	Technicians Diploma
Printing - Part I-	Technicians Diploma
Process Plant Operator-	Technicians Diploma
Refrigeration And Air Conditioning Engineering-	Technicians Diploma
Repair And Maintenance Of Small Appliances-	Certificate
Science-	Diploma
Science Technician-	Technicians Diploma
Shirt And Trouser Construction-	Certificate
Shorthand (100 Words/Minute)-	Craftsman Certificate
Shorthand (120 Words/Minute)-	Craftsman Certificate
Shorthand (160 Words/Minute)-	Craftsman Certificate
Shorthand (180 Words/Minute)-	Craftsman Certificate
Small Scale Catering-	Certificate
Soft Furnishing-	Certificate
Mechanical Engineering-	Technicians Diploma
Tailoring Level I-	Craftsman Certificate
Tailoring Level II-	Craftsman Certificate
Technical Teacher Training-	Technical Teachers Diploma
Telecommunications Engineering - Final-	Technicians Diploma
Telecommunications Engineering - Part I-	Technicians Diploma
Welding-	Craftsman Certificate

San Fernando Technical Institute

Head office Address:
Solomon Hochoy Highway
San Fernando
Tel: 653-4451/53

Courses Offered	Certification
Accounting - Final-	Technicians Diploma
Accounting - Part I-	Technicians Diploma
Air Conditioning And Refrigeration-	Craftsman Certificate
Auto And Diesel-	Craftsman Certificate
Auto And Diesel (Auto Technology Ii)-	Certificate
Basic Auto Mechanics-	Certificate
Business Management - Final (Ft)-	Technicians Diploma
Business Management - Final (Pt)-	Technicians Diploma
Business Management - Part I (Ft)-	Technicians Diploma
Business Management - Part I (Pt)-	Technicians Diploma
Business Management - Part II (Pt)-	Technicians Diploma
Computer Programming - Part I-	Technicians Diploma
Computer Programming - Part II-	Technicians Diploma
Computerised Accounting-	Certificate
Construction Carpentry And Joinery Practice-	Craftsman Certificate
Civil Engineering-	Technicians Diploma
Civil Engineering - Final-	Technicians Diploma
Civil Engineering - Part A-	Technicians Diploma
Home Economics (Food And Nutrition)-	Technicians Diploma
Dietary Technician-	Diploma
Domestic Electronics Servicing-	Craftsman Certificate
Dressmaking And Design (Advanced)-	Craftsman Certificate
Dressmaking And Design (Basic)-	Craftsman Certificate
Dressmaking And Design (Intermediate)-	Craftsman Certificate
Electrical/Electronic Engineering (Special Option)-	Technicians Diploma
Electrical/Electronics Engineering - Full Time-	Technicians Diploma
Industrial Instrumentation Engineering-	Technicians Diploma

Industrial Instrumentation Mechanic-	Diploma
Electrical/Electronics Engineering - Part A-	Technicians Diploma
Electrical/Electronics Engineering - Part B-	Technicians Diploma
Environmental Engineering-	Technicians Diploma
Executive Secretary-	Technicians Diploma
Executive Secretary - Part I-	Technicians Diploma
Machine Shop (Lathe Setter Operator)-	Craftsman Certificate
Machine Shop (Machinery Fitter)-	Craftsman Certificate
Food Preparation - Final-	Craftsman Certificate
Food Preparation - Part I-	Craftsman Certificate
General Draughtsmanship-	Technicians Diploma
Networking Essentials-	Certificate
P.C. Maintenance And Repair-	Certificate
Plc Applications-	Certificate
Plc Fundamentals-	Certificate
Practical Cafeteria Operations-	Craftsman Certificate
Process Plant Operator-	Craftsman Certificate
Process Plant Operator-	Technicians Diploma
Science Technician-	Technicians Diploma
Shorthand (100 Words/Minute)-	Craftsman Certificate
Shorthand (120 Words/Minute)-	Craftsman Certificate
Shorthand (80 Words/Minute)-	Craftsman Certificate
Mechanical Engineering-	Technicians Diploma
Supervisory Management - Final-	Technicians Diploma
Supervisory Management - Part I-	Technicians Diploma
Typewriting (35 Words/Minute)-	Craftsman Certificate
Typewriting (45 Words/Minute)-	Craftsman Certificate
Typewriting (60 Words/Minute)-	Craftsman Certificate
Welding-	Craftsman Certificate
Automotive Technology/Technologist-	Certificate
Marketing For Practitioners-	Certificate
Certificate In Business-	Certificate
Introduction To Project Management Techniques-	Certificate
Natural Gas Technology-	Certificate

Youth Training And Employment Partnership Programme (YTEPP) Limited

Courses Offered at YTEPP	**Certification**
Advanced Dressmaking And Design-	Certificate
Auto And Diesel-	Craftsman Certificate
Auto Care And Maintenance Serviceman-	Certificate
Auto Electrical-	Certificate
Auto Electrical Maintenance And Repair-	Certificate
Beauty Culture-	Certificate
Bread, Cake And Pastries-	Certificate
Building Electrician Assistant-	Certificate
Cake-Making-	Certificate
Cake-Making-	Certificate
Care Of The Elderly-	Certificate
Care Of The Sick-	Certificate
Catering-	Certificate
Cooking-	Certificate
Cupboard Design And Construction-	Certificate
Child Care-	Certificate
Color Television Servicing-	Certificate
Graphic Design-	Certificate
Hair Dressing-	Certificate
Diesel Engine Mechanic-	Certificate
Domestic Appliance Servicing-	Certificate
Domestic Electronics Servicing-	Pre-Technician Certificate
Domestic Refrigeration Servicing-	Certificate
Dressmaking And Design (Basic)-	Certificate
Household Furnishings-	Certificate
Engine Tune-Up/Trouble Shooting-	Certificate
Jewellry-	Certificate
Joinery/Furniture Design-	Certificate
Light Welding & Fabrication-	Certificate
Local Weaving-	Certificate
Metal Design And Fabricating-	Certificate
Metal Fabrication Level II-	Certificate

Micro-Entrepreneurship-	Certificate
Mixed Craft-	Certificate
Photography-	Certificate
Plumbing-	Certificate
Radio Servicing And Repair-	Certificate
Secretarial Support Services-	Certificate
Secretarial Support Services-	Certificate
Shirt And Trouser Construction-	Certificate
Small Machine Parts And Tools Making-	Certificate
Stores Clerk-	Certificate
Typist/Receptionist-	Certificate
VCR Repair-	Certificate

SERVOL

Courses Offered	**Certification**
Air Conditioning-	Certificate
Air Conditioning-	Certificate
Auto Body Straightening/Painting-	Certificate
Auto Body Straightening/Painting-	Certificate
Hospitality-	Certificate
Masonry-	Certificate
Printing-	Certificate

The **Trinidad and Tobago Hospitality and Tourism Institute** - Trinidad Campus: http://www.hospitalitytnt.com/t/index.asp

Metal Industries Company Short Courses
http://www.mic.co.tt/

- Pneumatics Hydraulics
- Industrial Maintenance - Electrical & Control
- Programming PLC's- Level 1

- Air Conditioning & Refrigeration
- Welding Technology - Level 1
- Oil Analysis for Predictive Maintenance- 3 day seminar
- Air Conditioning & Refrigeration (Course No. 08)
- Basic Machine Shop
- Industrial Maintenance - Industrial Electrical
- Power & Control Electronics
- Automatic Transmission
- Industrial Maintenance – General
- Plastic Technology
- Industrial Maintenance (Control Systems)
- Advanced Welding Technology
- Basic Principles of Process Controls
- Advanced Machining (CNC / CADS)
- Metal Inert Gas Welding (MIG)
- Introduction to MIG Welding
- Non-Destructive Testing

National Energy Skills Center

General Requirements and Qualifications
AGE: Minimum of 18 years

EDUCATION & TRAINING

- Minimum of 3 CXC General /'O Level subjects including Mathematics and English, National Examinations Council Craft Certificate OR Any equivalent education and Training

FULL TIME SKILLS PROGRAMMES:

- Pipe-Fitting / Carbon Steel Welding
- Construction Electrical Installation
- Instrument Fitting
- Construction Millwright

ADVANCED PROGRAMMES IN:

- Instrumentation and Controls
- Petroleum and Gas Engineering
- Project Management
- Electrical / Electronic Engineering
- Mechanical Engineering
- Health, Safety, Environment
- Other Industry Related Disciplines

PART TIME PROGRAMMES:

- Advanced Welding
- Specialised Coded Welding (designed for six levels of certification, with articulation from one level to another)
- Fluid Power & Controls
- Electrical Power & Controls
- Programmable Logic Controllers (PLC) Level 1
- Industrial Maintenance General - Level 1
- Introduction to Distributed Control System (DCS) - Level 1

BUILDING CONSTRUCTION TECHNOLOGY

CORE MODULES:

- Blueprint Reading & Measurement
- Health Safety & Environment
- Layout/Foundations/Excavations
- Welding
- Framing
- Fabrications & Erection of Steel Structures
- Scaffolding
- Basic Concrete Technology
- Basic Construction Electrical
- Basic First Aid

Options:

- Masonry
- Carpentry
- Plumbing
- Surface Finishing & Painting

Trinidad & Tobago NVQ Framework

Level 5	Chartered & Advanced Professional
Level 4	Professional
Level 3	Technician
Level 2	Craft
Level 1	Pre-Craft

ST. LUCIA

http://www.stats.gov.lc/

Table 119: Enrolment by Main Divisions of Specialization at Sir Arthur Lewis Community College in St. Lucia, 1993/94 to 1999/00

Year	Division/Department								Total
	Arts and General Studies	Technical Education and Management Studies	Teacher Education	UWI	Health Sciences	Agriculture	Home Economics	Continuing Education	
1993/94	358	**374**	190		59	**30**	**12**	1850	**2873**
1994/95	410	**400**	196	61	61	**32**	**16**	1702	**2878**
1995/96	370	**408**	199	91	66	**25**	**16**	2173	**3348**
1996/97	359	**442**	197	126	88	**45**	**15**	3277	**4549**
1997/98	426	**451**	176	135	86	**49**	**14**	3154	**4491**
1998/99	480	**440**	188	124	87	**34**	**9**	2227	**3589**
1999/00	520	**492**	247	78	80	**32**	**9**	2422	**3880**

National Skills Development Centre Training Area, September 2002 to July 2003

Training Area	Male	Female	Total
Small Business	3	27	30
Front Desk Management	2	23	25
Floral Arrangement	0	9	9
Dressmaking and Fashion Design	0	12	12
Drapery	1	12	13
Dressmaking/Tailoring	0	16	16
Cosmetology	1	34	35
Computer Repairs and Maintenance	33	5	38

Training Area	Male	Female	Total
Computer Graphics	5	12	17
Computer Applications for Small Business	3	10	13
Cake Decorating	0	11	11
Childcare	0	8	8
Bartending and Hospitality Studies with	3	16	19
Website Design	18	9	27
Small Appliance Repair	7	2	9
Electronic Appliance Repair	13	6	19
Plumbing	22	0	22
Pastry	0	12	12
Bread and Pastry	0	10	10
Massage Therapy	0	11	11
Ms Access Database Management	5	13	18
Gourmet Food Preparation	4	31	35
Fundamentals of Computer Networking	12	5	17
French	2	12	14
Electronic Data Entry	4	12	16
Catering	1	13	14
Cosmetology	0	10	10
Electrical	8	4	12
House Keeping	0	13	13
Plumbing	9	0	9
Auto Body	6	0	6
Auto Mechanical	9	0	9
Welding	2	0	2
Heavy Equipment	8	0	8
Outboard Engine	5	0	5
Carpentry	4	0	4
Fish Processing	2	3	5
Total	192	361	553

37 courses
Hospitality 6
Information Technology 5
Apparel & Sewing 3
Cosmetology & Related 3
Automotive 4
Appliance Repair 2
Business 2
Childcare 1
Plumbing 1
Electrical 1
Welding 1
Fish Processing 1
553 trained

National Enrichment And Learning Program In St. Lucia

Program	Male	Female	Total
Small Engine Repairs	18	0	18
Fish Processing	8	1	9
Flower Arranging	0	16	16
Information Technology	27	128	155
Garment Construction	0	93	93
Cake Decorating	0	75	75
Electrical Installation	18	2	20
TOTAL	71	315	386

JAMAICA

www.heart-nta.org

Jamaica Occupational Standards
www.nqrjamaica.org

Job Specification	Competency Levels
Accounting	1-3
Air Conditioning & Refrigeration	1-3
Apparel Engineering	4-5
Attraction Operations	1-3
Auto Mechanics	1-3
Auto Body Repairs Services	1-3
Auto Parts Sales & Distribution	1-3
Barbering	1-2
Beauty Therapy	1-3
Bus Conducting	1-2
Bus Driving	1-2
Carpentry	1-3
Cattle Rearing	1-3
Commis Chef	2
Computer Servicing and Support	2-3
Computer Software Development	2-3
Construction Site Manager	4
Consumer/Domestic Electronics (Radio & Television Repair)	1-3
Cosmetology	1-3
Crop Production	1-3
Drafting & Building Technician	3
Drapery Making	1-3
Drywall Construction	1-3
Early Childhood Care, Education and Development	1-3

Job Specification	Competency Levels
Electrical Installation	1-3
Electrical Line Distribution	1-3
Electrical Maintenance	2&3
Embroidery	1&2
Entertainment Management	3
Fashion Designing	3&4
Food & Beverage Service	1-3
Food Preparation	1-3
Front Office	1-3
Furniture Design	3-4
Furniture Production (Wooden)	1-3
Garment Construction	1-3
Goat Rearing	1-3
Horticulture	1-3
Hotel Accounting	1-4
Housekeeping	1-3
Industrial Electronics	2-4
Industrial Pipefitting	1-3
Information Technology: Usage & Support	1-3
Inland Aquaculture - Fish Farming	1-3
Joinery	1-3
Masonry	1-3
Masonry Brickwork	2-3
Masonry Stonework	1-3
Mechanical Maintenance	1-3
Metal Machining	1-3
Network Administration (Information Technology)	2-3
Packaging Application	1-3
Painting & Decoration	1-3
Pattern Making	1-3

Job Specification	Competency Levels
Pig Rearing	1-3
Plumbing	1-3
Poultry Rearing	1-3
Practical Nursing	1-3
Pre-Press Operations	1-3
Production Line Supervision	3
Quality Control	3
Rabbit Rearing	1-3
Retail Sales	1-3
Road Construction Work Supervisor	3
Roofing	2-3
Scaffolding	1-3
Secretarial Skills	1-3
Sewing Machine Mechanics	1-3
Sewing Machine Operation	1-2
Steel Fixing	1-3
Tailoring	1-3
Tiling	2-3
Tool & Die Making	3
Upholstery	1-3
Welding	1-3
Water Distribution & Maintenance	1-3
Water Treatment Process	1-3
Waste Water Treatment Process Operation	1-3

March 2003

Jamaica Training Institutions and Centers of HEART Trust/NTA (May 2004)

NORTHWESTERN REGION

HANOVER

Kenilworth Academy, Sandy Bay

Joint and Other Certificate
- High School students, Machine Operations– Windmill Apparel Factory, Computer Literacy, CXC Information Technology

Level 1
- General Accounting
- Villa Services
- Secreterial Skills
- Villa Attendant (Negril)
- Uniformed Services
- Hospitality Accounts

Level 2
- Front Office
- Early Childhood Care
- Computer Technician

NVQJ Competency Level 1
- Food & Beverage/ Housekeeping
- Customer Service
- Cook
- Data Operations
- Restaurant Server

Unit Competency Level 1
- Room Attendant - NCC
- Restaurant Service - NCC
- Housekeeping - Kings Chapel
- Keyboarding - MITTC
- Cookery - NCC

Unit Competency Level 2
- Computer Studies - MITTC
- Computer Studies - Kenilworth

ST. JAMES

Cornwall Automotive Training Institute (CATI), Flankers, Montego Bay
(categorized with Academies)

Joint
- Auto Electrical
- Air Conditioning

NVQJ Competency Level 1
- Automotive Skills

Unit Competency Level 1
- Data Operations

Unit Competency Level 2
- Auto Electrical
- Air Conditioning
- Data Operations

Community Based

Adelphi Skills Training Centre, Adelphi P.O.

Level 1
- Electrical Installation
- Plumbing & Pipe Fittings

Montego Bay Community College, Alice Eldermire Drive
Level 1
- Cosmetology

Industry Based
Caribbean Institute Of Technology, Marzouca Freezone, Montego Bay
NVQJ Level 2
- Computer Programming

Vocational Training Centre
Granville VTC, Granville P.O.

Joint and Other Certificate
- Electrical Installation
- Information Technology
- Drapery Making

Level 1
- Garment Construction
- Housekeeping - Day
- Housekeeping - Evening
- Early Childhood Care

Level 2
- Early Childhood Care

NVQJ Competency Level 1
- Food Preparation
- Furniture Manufacturing
- Electrical Installation
- Construction Worker (Masonry)

NVQJ Competency Level 2
- General Construction
- Electrical Installation

Unit Competency Level 1
- General Construction
- Furniture Manufacturing
- Food Preparation
- Electrical Installation

WESTMORELAND

Community Based
Enfield Skills Training- Darliston Westmoreland, Enfield, Darliston
Level 1
- Housekeeping
- Food Preparation

Social Development Commission
Belle Isle, Belle Isle
Level 1
- Hospitality

Vocational Training Centres

Culloden VTC, Whitehouse P.O.

Joint and Other Certificate
- Housekeeping

Level 1
- Villa Services

Level 2
- Food Preparation
- Food & Beverage

NVQJ Competency Level 1
- Housekeeping
- Food Preparation
- Restaurant Server
- Bar Porter

Unit Competency Level 1
- Restaurant Server
- Bar Porter
- Food Preparation

Petersfield VTC, Petersfield P.O.

Joint and Other Certificate
- Introduction to Computers
- Microsoft Power point
- Microsoft Word/Excel

NVQJ Competency Level 1
- Food Preparation
- Carpentry Multi-Skill
- Auto mechanics
- Electrical Installation

NVQJ Competency Level 2
- Carpentry
- Food Preparation
- Auto mechanics
- Electrical Installation

Unit Competency Level 1
- General Construction
- Auto mechanics
- Electrical Installation
- Food Preparation

Seaford Town VTC, Lambs River P.O.

Level 1
- Villa Services
- Drapery Making
- Garment Construction

Level 2
- Electrical Installation
- Pastry Cook
- Metal Work Engineering
- (Machine Shop Fittings)
- Drapery Making
- Carpentry & Joinery
- Welding & Fabrication

NVQJ Competency Level 1
- Commercial Food Preparation/Cook
- Metal Work Engineering /Mechanical Maintenance
- General Construction 2
- Furniture Manufacturing
- Welding
- Electrical Installation

Unit Competency Level 1
- Villa Services
- General Construction
- Electrical Installation
- General Construction 2

NORTHERN REGION

PORTLAND

Vocational Training Centre

Buff Bay VTC, Lynch Street

Level 1
- Garment Construction
- Early Childhood Care, Education & Dev.

Level 2
- Early Childhood Care

NVQJ Competency Level 1
- Electrical Installation
- Restaurant Server
- Electrical Installation - Off-Site
- Housekeeping
- General Construction - Carpentry
- Food Preparation
- Data Operations

Unit Competency Level 1
- Data Operations
- General Construction
- Electrical Installation
- Food Preparation
- Food & Beverage

ST. ANN

Academy

Runaway Bay HEART Hotel and Academy, Cardiff Hall, Runaway Bay

Joint and Other Certificate
- Dining Room and Fruit And Veg. Carving
- Housekeeping
- Social Graces Seminar - Police Academy
- Food & Beverage

Level 1
- Hotel Accounts/Front Office

NVQJ Competency Level 1
- Food & Beverage
- Food Preparation (Spicy Hill Centre)
- Food Preparation - North St
- Food Preparation
- Food & Bev. Sevice/ Housekeeping

NVQJ Competency Level 2
- Food & Beverage
- Commis Chef
- Housekeeping

Unit Competency Level 1
- Self Development
- Provide Food & Beverage Service
- Housekeeping
- Entrepreneurial Skills

Community Based

Browns Town Cosmetology, St. Hilda's, Browns Town

Level 1
- Cosmetology

Rotary Club of Ocho Rios, Ocho Rios
Level 1
- Plumbing
- Electrical Installation

Vocational Training Centre
Golden Grove/Beechamville VTC, Golden Grove

Level 1
- Garment Construction

Level 2
- Early Childhood

NVQJ Competency Lev. 1
- General Construction
- Data Operations
- Plumbing

NVQJ Competency Lev. 2
- Secretarial Skills

Unit Competency Lev 1
- Secretarial Skills
- Data Operations 1
- General Construction
- Plumbing

ST. MARY

Community Based
Clonmel Skills Training Project, Highgate P.O.
Level 1
- Food Preparation

Grace Care Training Project, Oracabessa
Level 1
- Garment Construction

Mango Valley Skills Training, Mango Valley
Level 1
- Housekeeping

Wood Park Skills Training, Wood Park, Pembroke Hall P.O.
Level 1
- Villa Services

Pre-Level 1 (formerly Skills 2000)
Broadgate Training Centre, Broadgate P.A.
Joint and Other Certificate
- Welding

Mango Valley Skills, Mango Valley P.O.

Joint and Other Certificate

- Agro-Processing

Richmond, Richmond P.O.

Joint and Other Certificate

- Housekeeping
- Food Preparation

Social Development Commission

Cape Clear SDC, Cape Clear

Level 1

- Hospitality

Vocational Training Centre

Port Maria, Port Maria P.O.

Level 1

- Carpentry

Level 2

- Early Childhood

NVQJ Competency Level 1

- Data Operations
- Food & Beverage
- Auto Mechanics
- Electrical Installation

NVQJ Competency Level 2

- Secretarial
- Electrical Installation

Unit Competency Level 1

- Electrical Installation
- Data Operations
- Food & Beverage
- Food Preparation
- Auto Mechanics
- Secretarial

TRELAWNY

Community Based

Cedric Titus Skills Training, Clarks Town P.O.

Level 1

- Garment Construction
- Welding & Fabrication
- Data Operation
- Food Preparation

Kelly Lawson Project, Lower Harbour St.

Level 1

- Food Preparation
- Housekeeping

Unit Competency Level 1

- Cook

Vocational Training Centre
Falmouth, Falmouth

Joint and Other Certificate
- Information Technology - Power Point
- Information Technology

NVQJ Competency Level 1
- Restaurant Server
- Electrical Installation
- General Construction
- Plumbing
- Call Centre Agent

NVQJ Competency Level 2
- Carpentry
- Electrical Installation

Unit Competency Level 1
- General Construction - Carpentry
- Plumbing
- Electrical Installation
- General Construction - Masonry
- Call Centre Agent
- Restaurant Server

NOT ASSIGNED BY REGION

Apprenticeship Programme

Level 2
- Telephone Technician
- Electrical/Instrumentation
- Heavy Duty Mechanic
- Welder
- Electrical Installation
- Furniture Manufacturing
- Automobile Painter
- Plumber & Pipe Fitter
- Industrial Maintenance Mechanic
- Auto Air Conditioning
- Painter & Decorator
- Automobile Body Repairer
- Industrial Maintenance Electrician
- Mason
- Automobile Mechanics
- Refrig/Air Conditioning
- Machinist & Turner
- Radio and Television Service
- Automobile Parts
- Radiator Repairer
- Carpentry & Joinery
- Mill-writing
- Automobile Electrician

MOEYC Marginal Institutions
Joint and Other Certificate

School Leavers' Training Opportunities Programme
School Leavers Training Opportunity Programme
Level 1
- School Leavers Training Opportunity Prog. (SL-TOPs)

Vocational Training Centre
External Centres (Schools)
Unit Competency Level 1 (remedial)
- External Centres (Schools)

Workforce Improvement Programme
- Palace Amusement - Managing Customer Service
- Plumbing - Jamaica Broilers
- Palace Amusement - Supervisory Development
- Electrical - Jamaica Broilers
- Plastic Technology Training Seminar

SOUTH EASTERN REGION

KINGSTON

Academy
Garmex, 76 Marcus Garvey Dr.

Joint and Other Certificate
- Advanced Garment Construction - ATC evening
- Soft Furnishing
- Textile Printing
- Drapery Making
- Machine Embroidery

Level 1
- Garment Construction
- Early Childhood Programme
- Customer Service

Level 2
- Database Management
- Early Childhood Programme
- Floral Arrangement
- Web Design
- Garment Construction - ATC Evening
- Computer Course
- Drapery Making - ATC Evening
- Upholstery Making - ATC evening
- Garment Construction
- Interior Decorating
- Tailoring Techniques
- Essentials of Fashion Designing

Level 3
- Bridal Wear
- Interior Decorating - ATC Evening
- Advance Drapery Making - ATC Evening

NVQJ Competency Level 1
- Data Operations

Jamaica German Automotive School, 87A Maxfield Avenue

Joint and Other Certificate
- JUTC
- Automotive Computer Systems

Level 2
- Auto-Mechanics - Part-Time Day (F/T & P/T Day Students)

Level 3
- Auto-Mechanics - Part-Time Day (F/T & P/T Day Students)

NVQJ Competency Level 1
- Motor Vehicle Repairs

Unit Competency Level 1
- Motor Vehicle Engine Systems
- Motor Vehicle Chassis

National Tool Engineering Institute, 7 Ashenheim Rd.

Joint and Other Certificate
- Appliance & Maintenance of Elect. Motor Ctrl. Sys.
- Advance AutoCAD
- Preventive Maintenance Management
- Advanced Air Conditioning & Refrigeration
- Introduction to AutoCAD
- Fundamentals Of Programmable Logic Control - JPS
- Introduction to Programmable Logic Control
- Introduction to Welding
- Application Of Electrical Regulations
- Intro to Air Conditioning and Refrigeration

Level 2
- Computer Repairs
- Industrial Electronics
- Air Conditioning & Refrigeration
- Welding & Fabrication
- Engineering Technician Certificate - Yr 1 &2
- Electro-Mechanical
- Mechanical Maintenance
- Computer Hardware Repair

Level 3
- Mechanical Maintenance
- Industrial Electronics
- Engineering 1 (PCC)
- Electro-Mechanical
- Eng. Tech. Course (Computer Repairs)
- Air Conditioning & Refrigeration
- Eng. Technician Course - Industrial Based
- Eng. Technician Course - Resit Students
- Engineering 1 (full time)
- Engineering 1 (Group D & F)
- Engineering 1 (part time JPS)
- Welding & Fabrication

NVQJ Competency Level 1
- Electro-Mechanical
- Welding & Fabrication
- Air Conditioning & Refrigeration
- Mechanical Maintenance
- Industrial Electronics

Community Based
Bethel United, 20 South Camp Rd.
Level 1
- Data Operations

Central Kingston, 151 East Street
Level 1
- Food Preparation

Denham Town, Denham Town
Level 1
- Data Operations

JAMAL Computer Aided Ed. Prog. / INFOSERV, 47b South Camp Road
Level 1
- Computer Education Programme

Mel Nathan, 19 Upper Rose Lane

Level 1
- Auto Mechanics
- Food Preparation
- Welding
- Cabinet Making
- Garment Construction
- Electrical Installation

Pentecostal Gospel Temple Skills Training, 111 Windward Rd.

Level 1
- Housekeeping

NVQJ Competency Level 1
- Restaurant Server

Samaritan Skills Training, 70 Duke Street
Level 1
- Housekeeping

Webster Memorial Skills Training Centre, 53 Half-Way-Tree Road
Level 1
- Data Operations

Western Institute, Seaga Blvd
Level 1
- Data Operations

Industry Based

Jamaica Maritime Institute (JMI),Palisadoes Park, Kingston 2

Joint and Other Certificate

- Multi Purpose Rating Skills

Pre-Level 1 (formerly Skills 2000)

Allman Town Human Resource & Skills Training, Allman Town

Joint and Other Certificate

- Welding
- Baking/Pastry Making
- Furniture Making/Repair (Woodwork)
- Tailoring

Creative Craft, 92 Hanover Street

Joint and Other Certificate

- Craft

Social Development Commission

74 1/2 Hanover ST., 74 1/2 Hanover St.

Level 1

- Information Technology

Special Needs Programme

Alpha Boys, 20 South Camp Rd.

Joint and Other Certificate

- Printing/Book Binding
- Woodwork/Carpentry
- Tailoring

L.E.A.P, 115-117 Duke St.

Joint and Other Cert.

- Shoe Making & Repairs
- Art & Craft
- Small Appliance Repairs
- Food Preparation

Vocational Training Centre

Boy's Town VTC, 6 Collie Smith Drive

Joint and Other Cert.

- Special Prog

Level 1

- Retail Sales

NVQJ Competency Level 1

- Data Operations
- Food Preparation

NVQJ Competency Level 2

- Food Preparation

Unit Competency Level 1

- Food Preparation
- Data Operations

Rockfort VTC, 203 Windward Rd.

Joint and Other Certificate
- Welding - Apprenticeship
- Metal Work Engineer - Apprenticeship
- Computer Technology

Level 1
- Early Childhood Care Education and Dev.
- Carpentry

Level 2
- Early Childhood Care Education and Dev.

NVQJ Competency Lev. 1
- Call Centre
- Electrical Installation
- Welding
- Data Entry
- Metal Work and Engineering

NVQJ Competency Lev. 2
- Web Page design
- Computer Technician
- Unit Competency Lev 1
- Electrical Installation
- Language Comm/ Math
- Data Entry

Unit Competency Lev 2
- Electrical Installation

ST. ANDREW

Academy

School Of Cosmetology, 10 Hope Rd.

Joint and Other Certificate
- Facial Care & Make-up Application

NVQJ Competency Level 1
- Cosmetology

NVQJ Competency Lev. 2
- Cosmetology

Unit Competency Lev 2
- Thermal Curling, Cutting & Colouring
- Facial Care & Make-up
- Braiding & Weaving
- Permanent Wave & Chemical Straightening

Stony Hill

Joint and Other Certificate
- Professional Development

Level 1
- Early Childhood P/T
- Early Childhood F/T
- General Accounts

Level 2
- Early Childhood

Level 3
- CISCO Instructor Training
- CISCO Networking

NVQJ Competency Level 1
- General Office Admin (Office Clerk)
- Data Operations

Unit Competency Level 1
- Operate Personal Computer

Community Based

Allman Town, Allman Town

Level 1
- Data Operations

Boulevard Baptist Church, 2 Washington Boulevard

Level 1
- Garment Construction

NVQJ Competency Level 1
- Commercial Cook

Citizens Advice Bureau, 29 Beechwood Avenue,

Level 1
- Housekeeping
- Garment Construction

Emmanuel, 12 Slipe Rd

Level 1
- Data Operations

Handzdown Skills Training, 11 Hillview Avenue

Level 1
- Cosmetology

Operation Friendship, 2C East Bell Rd.

Level 1
- Data Operations
- Cabinet Making

St Patricks Skills Training, 193 Bay Farm Road

Level 1
- Data Operations
- Commercial Cook

Total Care Learning Centre, 56 Musgrave Road

Level 1
- Early Childhood Education

Trinity Moravian, 29 Montgomery Ave.

Level 1
- Garment Construction
- Food Preparation

Industry Based
International InformationTraining Institute, 34 Old Hope Rd.

Joint and Other Certificate Level 1

- Web Page design 2
- Software Programme 3
- Data Operations

Other Special Programme
EXED, 137 Mountain View Ave.
Level 1

- Cosmetology

Pre-Level 1 (formerly Skills 2000)
Kingsgate United Skills Training, 49 Hope Road

Joint and Other Certificate

- Housekeeping
- Food Preparation
- Leather Craft

Operation Friendship, 2C East Bell Rd.

Joint and Other Certificate Level 1 Modules

- Garment Construction
- Welding
- Catering

Stella Maris Foundation, 1 Grants Pen Road
Joint and Other Certificate

- Woodwork

United African Skills Training, 16 Shoe Lane, Franklyn Town
Joint and Other Certificate

- Baking

YMCA (Hope Road), 21 Hope Road
Joint and Other Certificate

- Remedial Education

Special Needs Programme
Abilities Foundation, 191 Constant Spring Rd

Joint and Other Certificate

- Computer Studies
- Garment Construction
- Cabinet Making

Girls' Town, 89 Maxfield Ave.

Level 1

- Food Preparation
- Data Operations
- Cosmetology

Vocational Training Development Institute (VTDI), Gordon Town Rd.

Level 3

- B.Ed. (Advanced Placement)
- Counselling (Career Guidance)
- Drafting & Building Technician II
- Web Programming
- Drafting & Building Technician I
- Assessor Training Programme
- Career Guidance and Counselling - Distance CIT
- Drafting & Building Technician III (Advance)
- Red Stripe Competency Dev. Training
- Leadership Development - Short Course
- Instructional Technology
- Training of Trainers - Jamaica Constabulary Force
- Entertainment Management
- Use Of High Tech. Equipment - 1 Day Workshop
- Electrical License
- Entrepreneurship - Short Course
- Information & Comm. Technologist
- Information & Communication Technology
- Entrepreneurship & Business Dev.

Level 4

- Education & Training - Distance CIT
- Family Studies
- Family and Consumer Studies
- Education & Training - Distance MIND
- Jamaica Community Tourism Project
- Office Systems And Technology
- Career Development - BSc
- Mechanical Technology Clothing, Textile and Design
- Food Service Production and Mgt.
- Food And Nutrition
- Business Studies
- Electrical Technology
- Construction Technology
- Computing With Accounts
- Education and Training
- Apparel Design and Production Mgt.

ST. CATHERINE

Academy

Portmore, Waterford P.O.

Joint and Other Certificate

- Office Software Applications

Level 2

- Early Childhood Care

NVQJ Competency Level 1

- Data Operations Clerk
- Plumbing
- Carpentry/Masonry
- Electrical Installation
- Welding
- General Construction (Pilot)

NVQJ Competency Level 2

- Plumbing
- Masonry (Pilot)
- Electrical Installation

Unit Competency Level 1

- Microsoft Excel
- Tile Layer
- Welding
- Brick Laying
- Data Operations
- Microsoft Word

Unit Competency Level 2

- Electrical Installation
- Tile Layer

Unit Competency Level 3

- Architecture

Community Based

Cassava River Skills Training, Glengoffe

Level 1

- Data Operations

Ewarton

Level 1

- Data Operation

Faith Temple (Bayside), Bayside, Bridgeport P.O.

NVQJ Competency Level 1

- Data Operation

Glad Tidings Open Bible, 1 Ebanks Ave. Sp. Town

Level 1

- Data Operations

Guys Hills Skills Training, Guys Hill P.O.

Level 1

- Data Operation
- Cosmetology

Pre-Level 1 (formerly Skills 2000)
3-D Project Skills Training, 14 Monk St., Spanish Town
Joint and Other Certificate
- Papermaking

Braeton SDA Church, Braeton, Portmore
Joint and Other Certificate
- Garment Construction

Faith Temple Skills Training Centre, Bayside, Bridgeport P.O.
Joint and Other Certificate
- Garment Construction/Sewing Skills

Kitson Town Skills Training
Joint and Other Certificate
- Food Preparation

McGrath Comprehensive Skills Training, Treadways
Joint and Other Certificate
- Pastry Making
- Data Operations

Philippo Baptist, Spanish Town
Joint and Other Certificate
- Garment Construction
- Food Preparation

Spanish Town Seventh Day Adventist, 56 Brunswick Ave, Spanish Twn
Joint and Other Certificate
- Food Preparation/Pastry

Social Development Commission
Spanish Town, Spanish Town
Level 1
- Hospitality

Vocational Training Centre

Above Rocks VTC, Above Rock P.O.

Level 1
- Multi-Skilling Masonry
- Food Preparation
- Electrical Installation

Level 2
- Food Preparation
- Electrical Installation

NVQJ Competency Level 1
- Data Operation
- Secretarial Studies
- Food Preparation
- Electrical Installation

NVQJ Competency Level 2
- Electrical Installation
- Food Preparation

Unit Competency Level 1
- Introduction to Personal Computers
- Communication and Calculation
- Cake Baking & Decorating
- Tiling

Lluidas Vale VTC, Lluidas Vale P.O.

Joint and Other Certificate
- Cabinet Making
- Metal Work - Gear Cutting
- Fundamentals Of Lang. and Communication
- Garment Const. - Skirt Making

Level 1
- Garment Construction

NVQJ Competency Level 1
- Data Entry
- Carpentry
- Metal work Engineering
- Electrical Installation
- Welding & Fabrication

NVQJ Competency Level 2
- Metal work Engineering
- Welding & Fabrication
- Electrical Installation

Unit Competency Level 1
- Electrical Installation
- Metal work Engineering
- Carpentry

Old Harbour

Joint and Other Certificate
- Information Technology
- Drapery Making

Level 1
- Garment Construction
- Building Construction (Masonry)
- Building Construction (Carpentry)
- Auto Body Repair

Level 2
- Plumbing
- Auto Mechanics
- Garment Construction

NVQJ Competency Level 1
- Auto mechanics
- Plumbing

NVQJ Competency Level 2
- Building Construction Worker (Masonry)
- Carpentry

Unit Competency Level 1
- Auto mechanics
- Carpentry
- Plumbing
- Masonry

Unit Competency Lev 2
- Data Operations

ST. THOMAS

Community Based

Paul Bogle, Lyssons, Morant Bay P.O.

Level 1

- Masonry
- Carpentry & Joinery
- Electrical Installation
- Welding & Fabrication

Trinityville Skills Training, Trinityville P.O.

Level 1

- Housekeeping
- Data Operations

Upliftment Jamaica, White Horses

Level 1

- Data Operations

Pre-Level 1 (formerly Skills 2000)

Trinityville Skills Training, Trinityville P.O.

Joint and Other Certificate

- Agro-Processing

SOUTHWESTERN REGION

CLARENDON

Academy

Ebony Park, Toll Gate

Joint and Other Certificate

- Grounds Maintenance
- Customised Tractor Operation and Maintenance
- Practical Approach To Gardening
- Office Software Applications
- Advance Grounds Maintenance

Level 1

- Data Operations
- General Agriculture (Crop & Livestock Rearing)
- Food Preparation
- Multi-Skilled - General
- Agriculture
- Agro Processing
- Ornamental Horticulture

Level 2

- Agro-Processing
- Computers Repairs
- Crop Production & Pig Rearing - General Agriculture

- Goat Rearing
- Coop. Intern Prog. Agro-Proc.
- Tractor Operation and Maintenance

NVQJ Competency Level 1

- Crop Production
- Restaurant Server
- Livestock Rearing
- Cookery - Food Preparation

NVQJ Competency Level 2

- Restaurant Server (Captain)

Unit Competency Level 1

- Agriculture

Community Based

Christiana/Spalding Skills Training, Spaldings P.O.

Joint and Other Certificate

- Garment Construction

Level 1

- Garment Construction

Crofts Hill Training, Crofts Hill P.O.

Level 1

- Data Operation
- Food Preparation

Faith Clinic Vocational Training Institute, Manchester Ave. May Pen P.O.

Level 1

- Garment Construction
- Cabinet Making

Four Paths Skills Centre, Four Paths

Level 1

- Early Childhood
- Food Preparation

Kellits Skills Training, Kellits P.O.

Joint and Other Certificate

- Housekeeping

Level 1

- Housekeeping
- Food Preparation

NVQJ Competency Level 1

- Commercial Cook
- Restaurant Server

Rural Family Support Org., 5 Main Street, May Pen

Joint and Other Certificate

- Garment Construction
- Food Preparation

Level 1

- Housekeeping
- Garment Construction
- Early Childhood

Pre-Level 1 (formerly Skills 2000)
Container Project, Palmer's Cross
Joint and Other Certificate
- Software Application

Male Adolescent Programme, 5 Brooks Ave, May Pen
Joint and Other Certificate
- Babering
- Woodwork
- Tailoring

MANCHESTER

Community Based
Bellefield Skills Training Centre, Bellefield
Level 1
- Data Operations

Caribbean Centre For The Deaf, Knockpatrick PO
Level 1
- Garment Construction
- Food Preparation
- Cosmetology

Catholic School of Technology, 66 Caledonia Road, Mandeville
Level 1
- Restaurant Server
- Motor Vehicle Engine System

Devon Social Concern, Devon
Joint and Other Certificate
- Small Appliance repairs
- Garment Construction

Level 1
- Garment Construction
- Small Appliance repairs

Knox Cosmetology, Knox P.O.

Level 1

- Cosmetology

Mandeville Care Givers, 19 Woodlawn Road, P.O. Box 242

Level 1

- Practical Nursing

Mandeville Craft Institute, Manchester Road, Mandeville

Level 1

- Food Preparation

NVQJ Competency Level 1

- Restaurant Server

Mount Olivet, Walderston P.O.

Level 1

- Data Operations

Northern Caribbean University, Mandeville

Level 1

- Commercial Cook
- Housekeeping

Pre-Level 1 (formerly Skills 2000)

Knox Baking Technology,Cobbla

Joint and Other Certificate

- Baking Technology

Royal Flat Skills Training, Royal Flat

Joint and Other Certificate

- Pastry Making

Sisters Of Mercy Childs Home (St. John Bosco), Hatfield

Joint and Other Certificate

- Meat Cutting/Butchering

Vocational Training Centre
Newport VTC, Newport P.O.

Joint and Other Certificate
- Food Preparation
- Electrical Installation
- Furniture Manufacturing
- Women Centres Office Software Operations

Level 1
- Early Childhood Care Givers

Level 2
- Automechanic
- Electrical Installation
- Welding & Fabrication
- Early Childhood Care Givers

NVQJ Competency Level 1
- Automechanic
- Food Preparation
- Furniture Manufacturing
- Electrical Installation
- Welding & Fabrication

NVQJ Competency Level 2
- Secretarial Skills

Unit Competency Level 1
- Welding & Fabrication
- Furniture Manufacturing
- Food Preparation
- Data Operations
- Automechanic
- Electrical Installation

Unit Competency Level 2
- Secretarial Skills

ST. ELIZABETH

Pre-Level 1 (formerly Skills 2000)
Vineyard Skills Training, Vineyard P.O.
Joint and Other Certificate
- Food Preparation

Social Development Commission
New Town, New Town
Level 1
- Hospitality

Vocational Training Centre
Black River VTC, Black River

Joint and Other Certificate
- Garment Construction
- IT Outreach
- Information Technology

Level 1
- Garment Construction

Level 2
- Carpentry
- Garment Construction

NVQJ Competency Level 1
- Welding & Fabrication
- Electrical Installation
- Data Operations
- General Construction - Carpentry

- General Construction - Masonry

NVQJ Competency Level 2

- Electrical Installation
- Construction Worker (Masonry)
- Business Administration

Unit Competency Level 1

- Data Related
- General Construction
- Masonry

Junction VTC, Junction P.O.

Joint and Other Certificate

- Auto CAD
- Fundamental Of Lang. & Calculation
- Motor Vehicle Maintenance

Level 1

- Garment Construction

NVQJ Competency Level 1

- Welding & Fabrication
- Electrical Installation
- Furniture Manufacturing
- Auto mechanics
- Plumbing & Pipefitting

NVQJ Competency Level 2

- Plumbing & Pipefitting
- Electrical Installation

Unit Competency Level 1

- Data Operations
- Welding & Fabrication
- Entrepreneurial Skills
- Auto mechanics
- Electrical Installation
- Furniture Manufacturing

Jamaica National Qualifications Framework

Level			Award Type	Accrediting Body	Credits[5]	Suggested Direct Entry Requirements
Secondary			Compulsory Education Awards	Ministry of Education,		Not Applicable
			Post Compulsory Education Awards-CXC High School Equivalency Diploma (HISEP)	Caribbean Examination Council NCTVET	Not Applicable	Determined by MOE
Post-Secondary TVET	1	Employment Qualification	Certificate 1 *Directly Supervised Worker—(Limited range)*	National Council on Technical and Vocational Education and Training (NCTVET)	Min 20 Hours[6] 300 - 400	To be determined by the local training Institution
	2		Certificate 2 *Supervised Skilled Worker*	NCTVET	Min 40 Hours 550 - 650	Grade 9-10 *achievement level*, or to be determined by the local training Institution
	3		Certificate 3 or Diploma *Independent or Autonomous Skilled Worker*	NCTVET / UCJ	Min 55 Hours 850 - 950	3 CXCs or equivalent or to be determined by the local training Institution
Tertiary	4[7]		Undergraduate Diploma Associate Degree Certificate 4 *Specialised or Supervisory Worker*	NCTVET / University Council of Jamaica (UCJ)	Min 60 Hours 900-1200	3-4 CXCs or equivalent, or to be determined by the local training Institution
	5		Applied Degree/Degree *Professional or Managerial Worker*		Min 120 Hours 1800 - 2000	Five CXCs, Undergraduate Diploma, Associate Degree or Equivalent
			Higher Education Awards *Professional & Managerial Worker*	UCJ		Bachelor's Degree or higher

[5] Note 1 Credit is approximately 15 Instructional Hours, core competencies do not carry credit value

[6] Hours may vary depending on type of qualification. NCTVET qualifications carry additional requirements for information technology and entrepreneurship.

[7] Beginning at Level 4 and continuing in Level 5, education and training providers may prefer to be accredited by either UCJ or NCTVET, or by both. This depends on the academic vs. employment objectives of the programme.

CARICOM REVISED REGIONAL QUALIFICATIONS FRAMEWORK

Type/Level Of Programme	Orientation And Purpose	Credits	Entry Requirements	Occupational Competence	Academic Competence
Level 1/ Certificate	Completion of a preparatory programme leading to further study in a given academic or vocational area or entry qualification for a particular occupation	Minimum 10 Credits	To be determined by the local training Institution	Semi-skilled, entry level. Supervised worker	Grade 10
Level 2/ Certificate	To prepare a skilled independent worker who is capable of study at the next level (post-secondary)	Minimum 20 Credits	Grade 11 or Equivalent	Skilled Worker Unsupervised Worker	Grade 11
Level 3/ Diploma and Associate Degree	A post-secondary qualification emphasising the acquisition of knowledge, skills and attitudes (behavioural competencies) to function at the technician/supervisory level and pursue studies at a higher level.	Diploma: Minimum 50 Credits Associate Degree: Minimum 60 Credits	4 CXC's, Level 2 Certification or Equivalent	Technician, Supervisory	Associate Degree Entry to Bachelor's Degree programme with or without advanced standing
Level 4/ Bachelor's Degree	Denoting the acquisition of an academic, vocational, professional qualification, who can create, design and maintain systems based on professional expertise	Minimum 120 Credits	5 CXC's, Level 3 Certification or Equivalent	Competence which involves the application of knowledge in a broad range of complex, technical or professional work activities performed in a wide range of contexts. This includes Master Craftsman, Technologists, Advanced Instructor, Managers, Entrepreneurs	
Level 5/ Post Graduate/ Advanced Professional	Denoting the acquisition of advanced professional post-graduate competence in specialized field of study or occupation.		Level 4 Certification or Equivalent	Competence which involves the application of a range of fundamental principles at the level of chartered, advanced professional and senior management occupations. Advanced professionals	