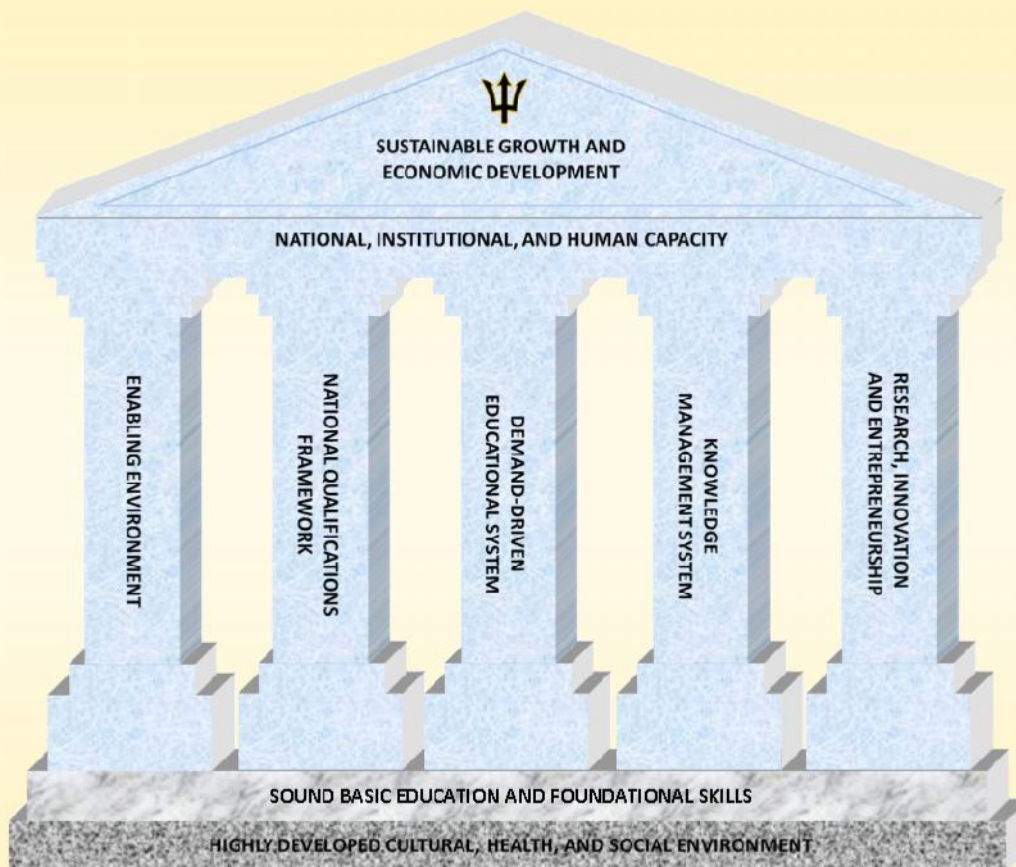




Barbados Human Resource Development Strategy 2011-2016

Developing National, Institutional and Human Capacity
for Sustainable Growth



Barbados

Human Resource Development Strategy

2011-2016

**Developing National, Institutional and Human Capacity
for Sustainable Growth**

Ministry of Education and Human Resource Development

Ministry of Labour

In collaboration with the

Human Resource Development Programme Steering Committee

Approved

December 16, 2010

Barbados Human Resource Development Strategy 2011-2016:

Developing National, Institutional and Human Capacity for Sustainable Growth

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List of Acronyms and Abbreviations

BAC	Barbados Accreditation Council
BDU	Business Development Unit
BHRDP	Barbados Human Resources Development Programme
BIDC	Barbados Investment Development Corporation
BSBA	Barbados Small Business Association
BSS	Barbados Statistical Service
BVTB	Barbados Vocational Training Board
CARICOM	Caribbean Community
CSME	CARICOM Single Market Economy
CXC	Caribbean Examinations Council
DOL	Department of Labour
ESEP	Education Sector Enhancement Programme
EU	European Union
GDP	Gross Domestic Product
GNP	Gross National Product
GoB	Government of Barbados
HRD	Human Resources Development
ICT	Information and Communication Technology
LMIS	Labour Market Information System
MCS	Ministry of Civil Service
MAFFI	Ministry of Agriculture, Food, Fisheries, Industry and Small Business Development
MEHR	Ministry of Education and Human Resource Development
MCT	Ministry of Commerce and Trade
MFCYS	Ministry of Family, Culture, Sports and Youth
MFE	Ministry of Finance and Economic Affairs
ML	Ministry of Labour
MRSU	Manpower Research and Statistical Unit
MTDS	Medium Term Development Strategy
NAO	National Authorising Officer for the European Development Fund
NAS	National Adaptation Strategy
NCST	National Council for Science and Technology
NEB	National Employment Bureau
NSP	National Strategic Plan
NQF	National Qualifications Framework
OECD	Organisation for Economic Cooperation and Development
PAD	Personnel Administration Division
PRIR	Planning Research and International Relations Unit
PIU	Public Investment Unit
PLAR	Prior Learning and Recognition
PPP	Purchasing Power Parity
SBDC	Small Business Development Centre
SME	Small and Medium Enterprise
TAD	Training Administration Division
TOR	Terms of Reference
TVETC	Technical and Vocational Education and Training Council
UWI	University of West Indies
YDP	Youth Development Programme
YES	Youth Entrepreneurship Scheme



Foreword



The Honourable Ronald Jones

Minister of Education and Human Resource Development

For many decades, successive governments have invested significantly in the development of our human capital through the provision of tuition-free education from nursery to tertiary. Indeed, such investments have been credited as contributing in a major way to Barbados' high ranking on several international indices. Interestingly, it has been shown across the world that, no country, developed or developing, has progressed up the human development scales without consistently and significantly investing in the education and training of its people.

Education, training and professional development continue to be focal areas in promoting human resource development as countries seek to remain competitive and to be successful in the modern global economy. It is with this in mind that a major policy of government is to sustain its investment in Human Capital Development through the provision of an effective education and training system.

We are now at the stage in our development where we are moving to institute a comprehensive, coordinated, and multi-sectoral Human Resource Development Plan that seeks to harmonise efforts at human capital development. As the Minister with responsibility for HRD, I am happy to collaborate with my colleague from the Ministry of Labour, as well as all stakeholders in this effort to chart a new pathway to progress and development. The five pillars articulated in this strategy are at the core of this new thrust. We must therefore continue to work together to ensure the successful implementation of the various components of this Strategy.

I welcome this opportunity to be part of a major historic event in our country's development. Let us therefore be guided along the path by the vision, mission, and underlying principles of this strategy to ensure that the potential of every Barbadian is truly realised.

The Honourable Ronald Jones



Foreword



Dr. The Honourable Esther Byer-Suckoo

Minister of Labour

As Minister responsible for labour, it is my distinct pleasure to join my colleague the Hon. Ronald Jones, Minister of Education and Human Resource Development in contributing to the preface of the Barbados Human Resource Development Strategy 2011-2016. The Ministry of Labour has cherished its partnership with the Ministry of Education and Human Resource Development and all other stakeholders who have selflessly collaborated in the preparation of this important document.

Given the numerous challenges faced by Barbados in the international arena, I believe that this strategy is both crucial and timely, as it builds on the inextricable linkages that exist between human resource development (HRD), the realization of decent work for all and economic development, particularly within the context of a global economy.

We can never overstate the importance of developing our human and social capital to meet the changing demands of an open economy. Make no mistake about it, there is a growing demand for a well-educated, trained and flexible labour force that will assist in driving productivity growth and increasing Barbados' level of international competitiveness. Through HRD, individuals will be equipped with the necessary knowledge and skills to exploit emerging technologies and embrace innovation as an avenue that we can use to enhance the production and quality of local goods and services.

I believe that the five pillars that define this strategy form the buttress for the necessary reforms that will transform Barbados into a developed country through increased productivity and a new culture of innovation and entrepreneurship. This HRD strategy will, I am sure, assist in placing Barbados on a clear path to economic recovery, far removed from the current global economic crisis.

It is gratifying that this strategy benefitted greatly from tripartite social dialogue and I take this opportunity to acknowledge the contribution made by those who have assisted in its formulation. I want to encourage further collaboration, as we must be ever mindful that all stakeholders need to work together to improve the quality of our human capital thus creating a better quality of life for Barbadians. I also want to give the assurance that my Ministry readily acknowledges its role as a key stakeholder and will work assiduously to ensure that its obligations which are outlined in the strategy are successfully implemented.

Dr. The Honourable Esther Byer-Suckoo



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- Ms. Keeley Holder, IMP Specialist

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Executive Summary

1. Introduction

The Government of Barbados continues to place considerable emphasis on the development of human and social capital, particularly through significant investment in education and related services. The Government is committed to increasing the number of secondary school leavers with the appropriate knowledge, skills, and competencies to successfully enter the job market or to embark on an economic enterprise. There is a focus on creating a labour force that can meet the changing demands of an open economy increasingly impacted by dynamic external forces. Further, the Government is cognisant of the growing need for specialised skills in emerging areas such as offshore financial and business development, tourism management, and agro-processing.

Consequently, the Government places emphasis on promoting lifelong learning; development of a seamless educational¹ system; bridging the gap between academic and technical skills; multiple entry and exit points, provision of second chance² education and opportunities for youth; expansion of the provision and quality of technical and vocational education and training; and improvement of participation in adult and continuing education. Plans for the development of a system of competency-based certification are well advanced and, will contribute to the establishment of an internationally recognised national certification and qualifications framework.

The Barbados Human Resource Development Strategy defines the necessary critical strategic interventions and the outputs, outcomes and indicators for Human Resource Development over the period 2011-2016. In the context of this Strategy, four components underpin the concept of Human Resource Development: educational attainment, workforce skills, population health, and the set of employment policies that connect people to business enterprises with the required skills to reap the maximum benefit from economic opportunities. Each component is key in the creation of a favourable climate for local and foreign enterprises to grow through new investments.

Previously, the development of human capital in Barbados was driven by various agencies without an overarching cross-sector development strategy. For the first time, Barbados is using a multi-sector approach, facilitated by a harmonised Human Resource Development Strategy, to guide the process. This approach involves the execution of several crucial development initiatives by different Ministries and private and public entities who aim to improve the collective development of Barbados' human resources in key areas such as

¹ Where the term 'educational' is used in this document, it refers to education and training.

² Second chance education and training is built on the concept that, through an organised structure, an individual can actualise an educational opportunity missed or failed the first time around.

Technical and Vocational Education, Financial Services, International Business, Information and Communication Technology, Health, and Hospitality sectors.

The Strategy is based on international best practice and adopts a holistic and multi-sector approach that embraces lifelong learning and strengthens links between education and the world of work. It further establishes cross-sectoral links among the lead human resource development agencies and focuses on synergies, knowledge sharing, and complementarities of financing mechanisms.

2. Guiding Principles

The Barbados HRD Strategy is premised on a seamless, high quality, demand-driven, enabling environment aimed at empowering citizens to actively contribute to sustainable growth and development in a dynamic and globally competitive economy.

The strategy recognises the need to provide a solid basic education and to promote lifelong learning as the foundation for every individual's personal and professional development. It adopts a holistic approach to human resource development which facilitates strategic linkages among stakeholders.

3. Vision, Mission, and Strategic Goals

Vision

An efficient, well-coordinated, effective, knowledge-led, and demand-driven HRD system responsive to global conditions and Barbadian aspirations.

Mission

To develop national, institutional, and human capacity so that the potential of all Barbadians is fully realised.

Strategic Goals

The HRD Strategy stands on five pillars of strategic intervention. These goals are:

1. Creation of an enabling environment for human resource development through institutional strengthening and capacity building;
2. Development of an internationally-recognised national qualifications framework;
3. Development of a demand-driven professional development and training services;
4. Rationalisation of knowledge management systems and improved information access; and,
5. Enhancement of research to improve innovation, entrepreneurship, and development capacity.

4. Expected Results

The main outputs expected under the Strategy include:

1. An *effective enabling environment* for human resource development including the strengthening of the capacity of critical Ministries, especially MEHR and ML, to develop, implement, monitor and evaluate sector policies and programmes in human resource and skills development.
2. An *improved internationally-recognised national qualifications framework* responsive to the dynamic requirements of the competitive and productive sectors, including mechanisms for the development of competency based certification.
3. A *demand-driven education and training programme* that incorporates systematic needs assessment mechanisms and includes appropriate strategic measures to meet the needs of marginalised youth and ensures private-sector involvement in training provision.
4. A *rationalised knowledge management system* that incorporates information from multiple sources, enhances decision making capabilities, and improves information access by all stakeholders.
5. *Enhanced research to improve innovation, and entrepreneurship capacity* including the development of a sustainable financing mechanism for training, to which the Government, employers, and trainees would contribute.

5. Activities

A number of critical activities have been identified in order to achieve the specific objectives of the Human Resource Development Strategy.

1. **Enabling Environment for Human Resource Development:** The Government of Barbados will implement a broad-based human resource development strategy with significant emphasis on institutional strengthening, capacity building, effective coordination, and strategic institutional linkages.
2. **National Qualifications Framework:** A national qualifications framework will be formulated to increase standardisation and quality assurance of educational programmes. Emphasis will be placed on the use of competence-based training, and the upgrade and expansion of training facilities so that qualifications for matriculation and employment opportunities will now incorporate academic and occupational outcomes.
3. **Demand-Driven Professional Development and Training:** All employees in the public and private sectors will be provided with opportunities for continual professional development and educational opportunities that are in keeping with industry standards and are aimed at developing appropriate skills, competencies, and attitudes. Educator training and preparation will be a priority to correct skill deficiencies such as technology integration across the curriculum, and the infusion of life skills, competency-based teaching, and use of alternative assessment methods as critical aspects of the instructional methodology. Special attention will also be given to the expansion of second chance education opportunities for all categories of persons.

4. **Knowledge Management Systems:** A comprehensive national knowledge management system will be created to ensure effective knowledge management practices and procedures are followed in the public and private sectors. This system will be utilised to form the basis of decision-making and will include monitoring and evaluation mechanisms for constant review for improvement.
5. **Research, Innovation, Entrepreneurship Capacity:** The Government of Barbados recognises the role that a new culture of enterprise, entrepreneurship, innovation, and research has to play in the national development thrust. Under the fifth pillar the Government of Barbados is promoting research, entrepreneurship and innovation education at the secondary and post-secondary levels with a view to increasing the number of small and medium size enterprises contributing to economic growth.

6. Implementation of the Strategy

6.1 implementation and Coordination

The implementing agency for the HRD Strategy will be the Ministry of Education and Human Resource Development. However, programme delivery will be spread across multiple ministries and agencies. This institutional mechanism will be further supported through the recruitment of a **Programme Coordinator** whose mandate will be the facilitation of the implementation of activities under the five pillars of the Barbados HRD Strategy. Specifically, the Strategy Coordinator will provide project management expertise, monitoring of the implementation of the Strategy, and provision of relevant technical guidance. This Coordinator will work in close collaboration with the HRD Division of the MEHR.

At the policy formulation level, a **Human Resource Development Advisory Council** will advise the Minister. A **Programme Steering Committee** already exists and has been actively involved in the formulation of the HRD Strategy. The Committee will continue to function in a technical, advisory, and monitoring capacity throughout the life of the programme.

6.2 Technical Assistance

The following are critical areas proposed for technical assistance:

- Development of HRD policy, procedures, and guidelines.
- Development of the National Qualifications Framework and its related policy guidelines.
- Development of an electronic, online qualifications database.
- Update of the Barbados Standard Occupational Classification system.
- Conduct of skills needs assessments and tracer studies.
- Development of a plan for improving second chance education opportunities.
- Development of a framework for the establishment of career counselling centres in TVET institutions, which are managed under a Central Career Counselling Centre at the MEHR.
- Articulation of a Quality Assurance Policy and Action Plan.
- Development of a comprehensive knowledge management framework.
- Establishment of a virtual platform for sharing relevant information to support research and development efforts.

- Conduct of a comprehensive study to evaluate Barbados' innovation landscape and to develop the Innovation Strategy and Policy guidelines towards its implementation including Performance and monitoring systems for various strategic components.
- Development of promotion and Marketing strategies for the HRD Strategy and its critical components.
- Development of a Lifelong Learning Policy.
- Establishment of a simulation for maritime training and certification.
- Development of a Strategic Plan to institutionally strengthen and modernise the employment services section of the Ministry of Labour.
- The development of a Prior Learning Assessment and Recognition System.

6.3 Benefits of the Strategy

Several benefits will be derived from the Strategy:

- Staff in many departments and agencies of Government will benefit from capacity building and educational programmes developed during the implementation of the strategy. This should result in a better trained civil service capable of providing more effective services to the public and services that are more cost effective.
- The development of a National Qualifications Framework will provide for better quality education and training to all levels of students and trainees in the educational system. For many individuals the NQF will mean that qualifications previously unrecognised will now be recognised allowing them to progress to higher education levels. The registration and certification of more educational institutions will result in higher educational standards being provided across the system.
- The development of National Vocational Qualifications will result in more consistency and strengthening of standards across the vocational educational system. Certificates and diplomas awarded to vocational education graduates will be consistent and more widely recognised. In addition, there will be enhanced employability of recipients, particularly those that have pursued TVET areas, through the upgrade of their skills sets.
- The implementation of quality standards using CBET curricula will result in higher educational quality and this will be complemented by an extensive train-the-trainers programme resulting in better quality instruction.
- The development of a comprehensive knowledge management system involving most agencies of Government will result in more effective labour market planning and the delivery of more market relevant educational programmes. Policymakers in Government will have access to current information on the labour market and career guidance counsellors will have the necessary information to provide students and job seekers with the best advice on job opportunities and future career paths. Educational institutions will have the information to develop those programmes which respond to employer needs and provide students with the skills most likely to enable them to obtain gainful employment. They will help to minimise critical information gaps such as occupational imbalances which are affecting vital economic sectors.

- The development and promotion of a research culture in Barbados will result in more research activity in the country conducted by the various organisations and interest groups. This has the potential for the development of best practices and methodologies within business development and creation as Barbados seeks to embrace new technologies.

6.4 Financing Mechanisms

Implementation of the Barbados Human Resource Development Strategy is estimated to cost BDS 583,000,000 over the five year period based on the recurrent budget of all HRD arms of Government. In addition to the costs directly associated with the implementation of the Strategy, the Government will continue its support to the sector which currently stands at over BDS 600 million annually.

In the initial stages, most of the funding for the HRD Strategy can be expected to come from the Government's general budget. A greater involvement of the private sector in the implementation of the HRD strategy could result in more opportunities for collaboration and financial support.

6.5 Accountability, Monitoring, and Evaluation

The Programme Steering Committee and Project Coordinator will have primary responsibility for the monitoring and evaluation of the Strategy. Each agency must be held accountable for a particular activity within the plan and as such has the overall responsibility to monitor and evaluate the processes within each activity to ensure that objectives are being met according to the plan. Monitoring will also take place through regular meetings organised by the Government with stakeholders and development partners.

6.6 Promoting Sustainability

In order to ensure sustainability a number of factors undergird the Strategy, as follows:

1. Wide participation and a clear, shared purpose.
2. Signature of a Memorandum of Understanding between Ministries as a means of ensuring commitment between the key partners.
3. As much information as possible should be shared among the stakeholders and constituents.
4. Financial and material resources should be in place and readily available.
5. Capacity building through the acquisition of skills and knowledge by staff is critical to promoting sustainability.

6.7 Communication and Visibility

The Strategy supports the implementation of communication and public relations activities including formal high-level public outreach activities with main stakeholders. Outreach activities will ensure well-informed discussion among the relevant stakeholders through the media and within Government, private sector, non-state actors, and development partners. A promotion and marketing plan for raising awareness and dissemination of outputs will also be in place throughout the duration of the Strategy.



CHAPTER 1.0

Introduction and Background

The Government of Barbados continues to place considerable emphasis on the development of human and social capital, particularly through significant investment in education and related services. The Government is committed to increasing the number of secondary school leavers with the appropriate knowledge, skills, and competencies to successfully enter the job market or to embark on an economic enterprise. There is a focus on preparing a labour force that can meet the changing demands of an open economy increasingly impacted by dynamic external forces. Further, the Government is cognisant of the growing need for specialised skills in emerging areas such as offshore financial and business development, tourism management, and agro-processing.

Consequently, the Government places emphasis on promoting lifelong learning; development of a seamless educational system; bridging the gap between academic and technical skills; multiple entry and exit points, provision of second chance³ education and opportunities for youth; expansion of the provision and quality of technical and vocational education and training; and improvement of participation in adult and continuing education. Plans for the development of a competency-based system of certification are well advanced and will contribute to the establishment of an internationally recognised national certification and qualifications framework.

The Barbados Human Resource Development Strategy defines the necessary critical strategic interventions and the outputs, outcomes and indicators for Human Resource Development (HRD) over the period 2011-2016. In the context of this Strategy, four components underpin the concept of Human Resource Development. These are educational attainment, workforce skills, population health, and the set of employment policies that connect people to business enterprises with the required skills to reap the maximum benefit from economic opportunities. Each of these components is a key driver in the creation of a favourable climate for both local and foreign enterprises to grow through new investments.

Previously, the development of human capital in Barbados was driven by various agencies without an overarching cross-sector development strategy. For the first time, Barbados is using a multi-sector approach, facilitated by a harmonised Human Resource Development Strategy, to guide the process. This approach involves the execution of several crucial development initiatives by different Ministries including private and public entities who aim to improve the collective development of Barbados' human resources in key areas such as Technical and vocational Education (TVET), Financial Services, International Business, Information and Communication Technology (ICT), Health, and Hospitality sectors. Currently, Barbados has a well developed social safety network of services that provide

³ Second chance education and training is built on the concept that, through an organised structure, an individual can actualise an educational opportunity missed or failed the first time around.

coverage for at risk youth and other targeted groups. Therefore, the focus on a holistic approach will provide an opportunity to use a broad-based knowledge management system to drive innovation, research and policy formulation across the public and private sectors.

The Strategy is based on international best practice as evidenced by similar models in South Africa, Canada, and Trinidad and Tobago. The Strategy is also consistent with the European Union Strategy for More and Better Education⁴. Specifically, the programme recognises the need for a solid basic education as the foundation for further studies. It adopts a holistic and multi-sector approach that embraces lifelong learning and strengthens links between education and the world of work. It further establishes cross-sectoral links among the lead HRD Ministries and other agencies and focuses on synergies, knowledge sharing, and complementarities of financing mechanisms.

1.1 Context of Human Resource Development in Barbados

Over the 44 years since independence, Barbados has been transformed from a low-income economy dependent on sugar production into an upper-middle income economy that, while relying heavily on tourism and financial services, has been resilient in the face of external shocks. With a Gross Domestic Product of USD 3.4 billion (at current market prices), a population of about 275,000 and a per capita income of USD 12,455 (over USD 18,000 on a Purchasing Power Parity basis) poverty is amongst the lowest in the Caribbean.

Social indicators have been strong by Caribbean standards with the *2009 UNDP Human Development Report* ranking Barbados 37th among 190+ countries. The Government of Barbados is implementing a programme to build social and economic equity, by focusing on vulnerable groups through cooperation, participation, sustainability, and respect. In addition, the *2010 Country Assessment of Living Conditions Survey* will provide valuable information on current poverty rates, thereby enabling evidence-based policymaking.

Within the context of the current global recession, Barbados has been facing several economic and financial challenges. As a result, the economy contracted in 2009 by 5.3% and prospects are for a further but modest decline in 2010. The rate of unemployment at the end of 2009 surged above 10% while real output per employee fell by an estimated 4.1%, after seven consecutive years of increases. The Human Resource Development Strategy will be a vital response strategy in addressing the current symptoms of the downturn in the economy – increased unemployment, recession, and inflation – while mitigating the risk of longer term impacts. Acquisition of new competencies, skills enhancement, improved institutional efficiency, and effective dialogue among stakeholders will assist in developing a sound workforce and in meeting the overall development objectives of the country.

1.2 Challenges Facing the HRD Sector in Barbados

1.2.1 Impact of Globalisation

Barbados is highly susceptible to the effects of globalisation⁵. On one hand, it has benefited from increased access to investment resources (both portfolio and direct foreign investment), trade liberalisation, and the enhancement of information technology, which

⁴ European Commission. (2010). *More and Better Education in Developing Countries*. Brussels: European Commission.

⁵ Globalisation is defined as the process of increasing international economic activities.

have led to reductions in transaction costs and prices. It has however also led to the decline of manufacturing and agriculture resulting from greater exposure to strong foreign competition, loss of preferential market access for sugar, and increased pressure on Barbados' fixed currency exchange rate regime. In addition, the current global recession has resulted in the imposition of more prudent fiscal policies and restraints. Barbados' exchange rate (which is pegged to the US dollar) has provided a long period of price stability, which has had a favourable impact on inward investment. Further, the low crime rate, reliable infrastructure, educated workforce, and natural landscape have made the country an attractive destination for tourists and ideal location for off-shore financial services.

The country's placement on the OECD 'white list'⁶ for its transparency in for international tax jurisdictions has helped to sustain offshore business activity. It is expected that foreign direct investment and other private capital flows will recover to the pre-financial crisis level. According to the World Economic Forum's *Global Competitiveness Index*, Barbados remains in the world's top 50 at 44th in the 2009-2010 ranking, which gives it the top ranking among CARICOM states. It scored well in terms of good institutions (20th) and infrastructure (21st) as well as higher education (26th). However, the *World Competitive Report* notes that Barbados suffers from low labour market efficiency, poor work ethics, and low labour productivity.

The increasing exposure of the economy to globalisation has resulted in changes in work places practices, organisational structures, and cultural attitudes. New entrants to the labour market and those in it cannot necessarily expect to remain in the same job for the rest of their lives. People will have to change jobs more frequently than in the past and thus will require upgrading or retraining. In recognition of this change, the introduction of a National Qualifications Framework (NQF) will ensure that all education and training can be quality assured through national standards and qualifications.

1.2.2 Structural Changes within Sectors

Rising GDP (and thus labour costs) and greater exposure to trade liberalisation and foreign investment have led to important structural changes. The economy has witnessed a steady shift from the primary industries (agriculture) to the tertiary sector, with the emergence of service-based industries as important sources of foreign exchange and income (Table 1.1).

Table 1.1: Real GDP by Industry of Origin (BDD \$' Million)

Sector	1999	2004	2008*
Tourism	143.9	168.2	166.7
Transport, Storage and Communications	78.9	85.1	104.2
Manufacturing	69.3	61.9	61.8
Business and General Services	165.7	175.5	208.5
Construction	72.4	87.1	95.5
Agriculture (non sugar)	36.1	32.5	35.8
Sugar	22.9	14.8	13.6

Source: Central Bank of Barbados (2008)

⁶ The only country in the Caribbean

(a) Tourism

Tourism is a key sector that has good growth prospects. It currently has the highest rank (according to the World Economic Forum) in the Caribbean and Latin America⁷. The anticipated expansion will depend on improved quality of the workforce, especially 'the ability of Barbadians to assume management positions in all aspects of the tourism industry' and specialist skills in the niche markets.

A crucial component of the Tourism sector is the Health and Wellness Industry. This sub-sector is one of the fastest growing industries and Barbados is well placed to become a 'health' destination, given its hotels, medical facilities due to the overburdened health market in North America.

(b) Financial services

The Barbados offshore financial sector is an important source of foreign exchange. It comprises two sub-sectors:

- (i) Information services (call centres, data entry, claims processing, transcription services); and
- (ii) Financial services (international business companies, international insurance and re-insurance companies, off-shore banking)

In order to develop a business environment that is conducive to investment, the Government has designed a diverse portfolio⁸ of tax incentives, subsidies, and grants to encourage inward investment in information and financial services. The number of international business entities has grown from 2,821 (2004) to 3,785 (2008) comprising mostly international business companies, exempt insurance companies, and offshore banks.

(c) Manufacturing

The index of total manufacturing shows a steady decline from 121 (in 1998) to 79 (in 2008). The decline in textiles, food, and beverages has been partly offset by the growth in chemicals and furniture. The major exports; textiles, electrical components and beverages (apart from rum) have all declined mainly because of low productivity and rising costs (electricity, inputs, labour). Consequently there is a very heavy reliance on the domestic market.

(d) Sectoral Distribution of Employment

There is growing evidence that the changing economic structure has led to shifts in the distribution of the employed. Table 1.2 shows that employment has declined in the sugar, agriculture, and manufacturing sectors. The majority of the employed labour force works in the service industries. Indeed, five service sectors account for two thirds of the total workforce: tourism (13%), financial services (19%), Government services (17%), wholesale and retail (17%), and general services (23%).

⁷ 29th in the World, ranked according to an evaluation of natural and cultural resources, safety and security, environmental laws, infrastructure, air transport and labour practices

⁸ Primarily through the Barbados Investment and Development Corporation and the Ministry of Industry and International Business

Table 1.2: Employment by Major Industrial Sector ('000)

Industry	1999	2002	2004	2008
Agriculture	5	5.6	4	3.3
Manufacturing	12	9	8	7
Construction	9	13	13	14
Wholesale and Retail	17	20	20	19
Tourism	12	14	12	14
Transport	5	5	5	6
Financial and Business Services	8	11	11	11
General Services	19	22	29	30
Government Services	23	28	28	27
Total	109	127	130	130

Source: Barbados Statistical Services (2008)

(e) Sector competitiveness

Much depends on the competitiveness of the key sectors. The economy is heavily dependent on two sectors (tourism and financial services) to generate foreign exchange, and to create direct and indirect employment. The National Productivity Council, which was established to develop ways of measuring productivity, has noted declining and very low productivity in the two sectors (Table 1.3). One approach to boost productivity is the development of a more efficient workforce to reduce unit costs. To improve competitiveness in the key sectors of the economy it will be necessary to upgrade the skill levels of the workforce from a low skills base to higher quality skills.

Table 1.3: Productivity Growth (%)

Sector	Year	
	2004	2009
Financial Services	4.0	0.5
Manufacturing	32.0	-1.0
Wholesale and Retail	4.0	4.0
Tourism and Accommodation	30.0	-2.0

Source: National Productivity Council

The shift to service industries has also changed the way in which work is organised within enterprises, such as the use of flatter business structures, greater emphasis on teamwork, responsibility and communication and information technology skills.

In 2008, GDP per capita increased to USD 10,400, which led to the purchase of more sophisticated consumer goods, which in turn require more complicated servicing (installation, repairs and after sales service).

(f) Information and Communication Technology

Globalisation has exposed Barbados to the impact of new technologies in the community and various enterprises. The effective manipulation of information via electronic means will become fundamental to business operations. Changes in ICT will require many more staff and workers with computer literacy skills.

1.2.3 Employment

Employment grew from 2001 to 2008 by less than 1% (Table 1.4). The decline in employment may be attributed to reduced demand for workers in the agriculture and manufacturing sectors, which was partly offset by increased employment in general services.

Table 1.4: Labour Force 2001-2008 ('000 rounded)

	1996	2001	2008
Labour Force	136	145	144
Employed	116	131	132
Unemployed	20	14	12
Not in Labour Force	66	64	69
Employed in manufacturing	10	9	7
Employed in agriculture	7	5	4
Employed in general services	23	23	30

Source: Barbados Statistical Service (2008)

(a) Structure of employment

Barbados's steady transformation into a more service-orientated economy has led to more new jobs for more highly skilled labour. In the last decade, occupations that showed the largest increases included professionals, managers, technicians and clerical workers (Table 1.5). However there is an imbalance between the professional group, the sub-professional, and the rest.

Table 1.5: Labour Force by Occupations (nearest '000)

Occupation group	2000		2008	
	Number	Percent	Number	Percent
Senior Officials	8	6	12	9
Professionals	11	8	16	12
Technicians/Sub-professional	9	7	11	8
Clerks	15	11	16	12
Service/Shop workers	27	19	24	18
Agriculture/Fisheries	3	2	4	3
Craft	18	13	19	14
Plant and Machine Operators	9	6	8	6
Elementary Workers	35	26	22	17

Source: BSS 2000, 1st quarter; 2008, 1st quarter

(b) Unemployment

The overall unemployment rate has risen from 7.9% (in 2008) to 10.1% (in 2009), mainly because of the global economic recession. Most of the unemployed received secondary or post-secondary education, but more than half (53%) lack any formal qualifications. The situation is more serious among males. It is also evident that technical and university education do not necessarily guarantee a job; some 10% of the unemployed had technical qualifications and 13% had university/college qualifications (Table 1.6).

Table 1.6: Unemployed in 2008: Level of Qualifications

Qualification	Number ('000 rounded)	Percentage	Percentage males
None	6.2	53	61
CXC basic	0.1	2	2
O level/CXC general	2.5	21	14
A level	0.1	1.2	1
Certificate	1.5	13	10
Total (including others)	11.7	100	100

Source: Barbados Statistical Service (2008)

Youth unemployment is a major issue. Although overall unemployment (in absolute terms) has fallen, the official unemployment rate⁹ for the age group 20-24 remains high (Table 1.7). Indeed, the unemployment problem is compounded by a low status perception of vocational and technical skills by youth, which partly accounts for the attitude to vocational skills that are currently filled by a large number of foreign workers, who are mostly employed in craft-level jobs (as carpenters, masons, painters). Improving the flow of information (through career guidance in schools) can stimulate a stronger interest in vocational training.

Table 1.7: Unemployed by Age Cohort

Age	2002		2008	
	Number (000's)	Percent	Number (000's)	Percent
5-19	1.8	18	1.5	19
20-24	3.3	31	2.1	26
25-29	2.1	20	1.9	24
30-34	1.5	15	1.3	16
35-39	1.6	16	1.2	15
Total (including others)	10.3	100	8.0	100

Source: Compiled from Barbados Statistical Service data (2002/2008)

The wage economy is not generating sufficient new jobs in which case a proportion of entrants will seek self-employment for which vocational skills (and life skills) will be needed to prepare them for adulthood and working life.

⁹There are two rates of unemployment; the narrow definition used here does not include who are available for work but are 'discouraged' from seeking employment.

There is widespread anecdotal evidence to show that employers are dissatisfied with the non-technical skills of job applicants and young employees. In addition to technical skills, new entrants will need 'soft skills' (such as communication, leadership, analytical thinking, problem solving, negotiation, and time management), to enhance their employability.

Improvements in HRD depend on the quality of education and training, which has enormous influence on the future quality of the workforce. As with all post-secondary education and training, the critical first step in improving educational outcomes is to strengthen primary and secondary education. Most of the employed (88%) have secondary and post-secondary education but a surprising proportion (43%) has no qualifications at all. The education of the workforce lags behind other middle-income countries. Currently, only 31% of the workforce holds post secondary school qualifications¹⁰.

1.2.4 Growth of Small Business Sector

The Government's attempt to promote the development of the small business sector has proved successful. It is estimated that there are approximately 11,500 small companies in Barbados¹¹, which account for more than half of GDP. The sector's growth has helped to offset the country's traditional dependence on employment in the tourist sector and public sectors. However, the small business sector is faced with several constraints, not least of which is poor management and weak entrepreneurial skills. Small and medium enterprises face particular challenges in terms of skills development, primarily because they lack the resources to invest in education and training and are reluctant to give time off for formal education and training. It will be necessary then to offer incentives for SMEs to train their workers and influence educational providers (both public funded and private) to employ flexible approaches in the delivery of their skills, in order to reach a wider clientele.

1.2.5 Tertiary Education and Training Sector

As is the case in many countries, the tertiary education and training sector has grown more in response to social demand (i.e. the number of students applying for places) rather than market demand (i.e. the needs of employers). The growth of enrolments in tertiary institutions (Table 1.8) is partly due to the Government's policy of expanding access. Such growth will need to be evaluated in terms of efficiency (cost of inputs) and effectiveness (employment in areas for which students were trained) and quality.

There is however a growing gender imbalance within the Barbados education system, reflected in a declining level of participation of males at higher educational levels. In response, a number of governmental and non-governmental educational programmes aim to provide second chances for building technical competence. This comprehensive series of interventions include technical, vocational and academic programmes; opportunities for mentorship and entrepreneurship; and provision of grants, loans, and technical support for development of entrepreneurial ventures. The HRD Strategy will further strengthen these interventions through the incorporation of National and Caribbean vocational qualifications into the national qualifications framework; improved access and quality of educational programmes at the institutional and community levels; and further opportunities for innovation and entrepreneurship.

¹⁰ Certificate, diploma, degree and professional qualification (data provided for consultants by BSS)

¹¹ President of Barbados Small Business Association (BSBA)

Table 1.8: Tertiary Enrolment from 2004/2005 to 2008/2009

Year Gender		Barbados Community College		Erdiston Teachers' Training College		Samuel Jackman Prescod Polytechnic		University of the West Indies (Cave Hill)		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
2004 - 2005	M	1,429	35%	32	32%	1,726	61%	1,874	32%	5,061	39%
	F	2,685	65%	67	68%	1,110	39%	3,910	68%	7,772	61%
	T	4,114	100%	99	100%	2,836	100%	5,784	100%	12,833	100%
2005 - 2006	M	1,326	34%	50	27%	1,524	55%	1,948	31%	4,848	37%
	F	2,539	66%	138	73%	1,248	45%	4,266	69%	8,191	63%
	T	3,865	100%	188	100%	2,772	100%	6,214	100%	13,039	100%
2006 - 2007	M	1,402	33%	49	20%	1,632	52%	2,193	32%	5,276	36%
	F	2,886	67%	192	80%	1,516	48%	4,642	68%	9,236	64%
	T	4,288	100%	241	100%	3,148	100%	6,835	100%	14,512	100%
2007 - 2008	M	1,459	33%	74	25%	1,360	47%	2,310	32%	5,203	35%
	F	3,001	67%	227	75%	1,512	53%	5,001	68%	9,741	65%
	T	4,460	100%	301	100%	2,872	100%	7,311	100%	14,944	100%
2008 - 2009	M	1,406	31%	67	24%	1,648	53%	2,495	32%	5,616	35%
	F	3,170	69%	222	76%	1,239	47%	5,286	68%	9,917	65%
	T	4,576	100%	289	100%	2,187	100%	7,781	100%	15,533	100%

Source: Ministry of Education and Human Resource Development

The lack of a demand-driven system is mainly due to the lack of data on employers' skill needs. Anecdotal evidence would suggest that Barbados suffers from some serious skill shortages but these cannot be supported in the absence of any statistical evidence. The debate on whether or not 'skills shortage' is important can be partly resolved by a systematic approach to an occupational and educational needs analysis, to ascertain from employers in key sectors, those occupations which are currently in demand and likely to be in high demand in the future. The development of a LMIS which includes regular employer surveys and the sharing of the results with educational institutions will help to develop more relevant programming.

Owing to the lack of a database that encompasses all the tertiary institutions, the MEHR cannot adequately monitor programmes, undertake assessments of efficiency and effectiveness, and therefore evaluate quality.

1.2.6 Education and Training for the Civil Service

The Government, which is a major employer in the country, should take the lead in identifying the skills gaps of its own workforce. This situation can be improved through a systematic training needs analysis and the building of capacity through training in this area.

1.3 Consistency with Government's Development Agenda

Over the next five years, the main development agenda of Government will be pursued through the implementation of the Medium Term Development Strategy (MTDS) 2010-2014 which sets out a broad framework of policies and programmes and gives support to the

country's long-term vision of becoming **"A Fully Developed and People-centred Society, through New Development Pathways"**. MTDS will serve as an important recovery tool that will be used to guide the country as it emerges from the current global recession.

In addition, the Barbados Adaptation Strategy (BAS) 2006-2014 targets the transformation of sugar production into a sugarcane industry and the diversification of the overall economy through human resources development, entrepreneurship, cultural industries, and other creative measures.

The National Strategic Plan (NSP) 2006-2025 sets out Barbados' vision of becoming a prosperous, socially just, globally competitive, and fully developed society by the 2025. The NSP outlines the framework for comprehensive economic diversification and restructuring that would, in turn, lead to social cohesion and enhanced life quality. The HRD section of the NSP refers to five objectives, namely:

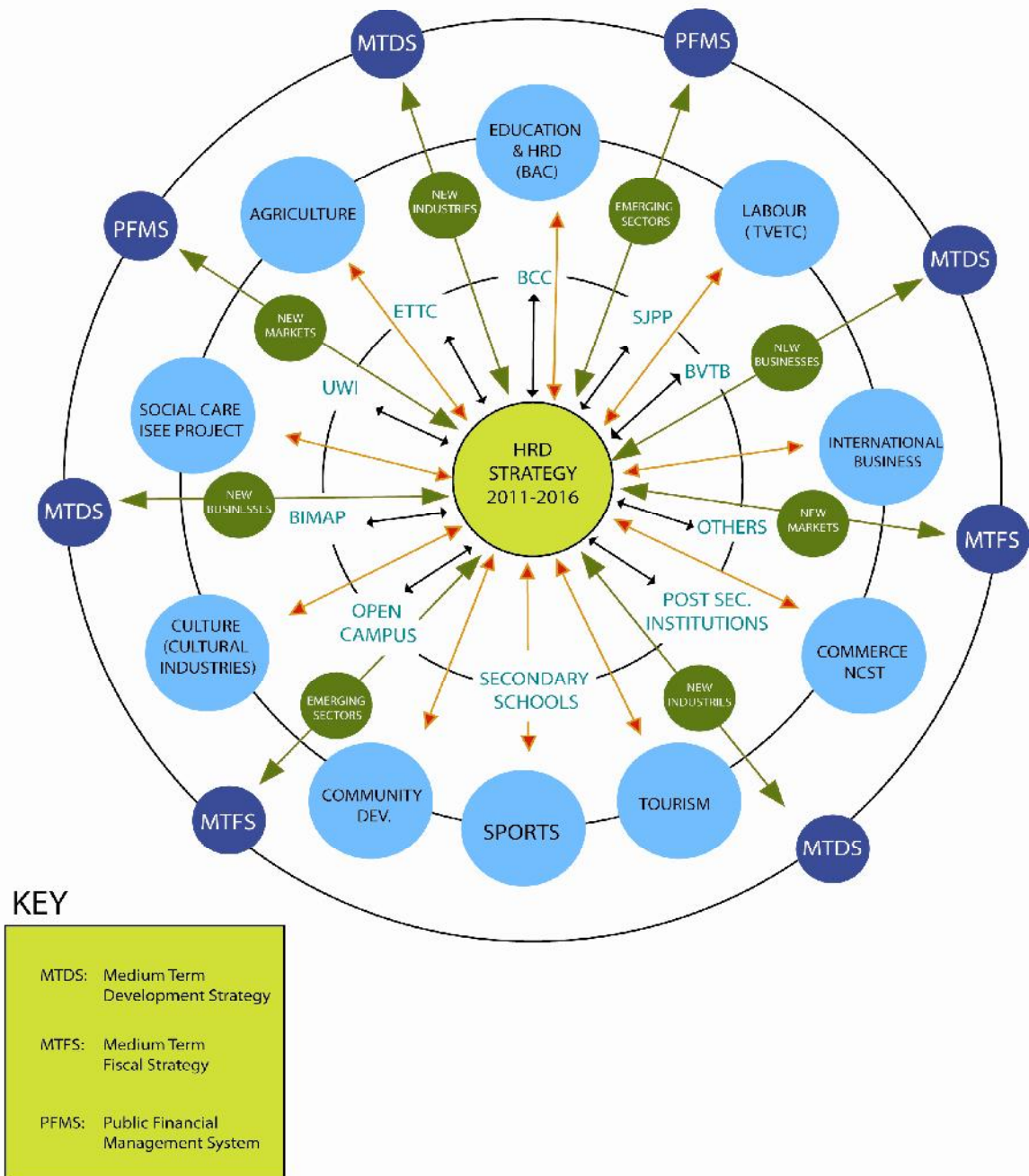
- (a) To create a flexible educated and trainable labour force that would allow it to respond readily and appropriately to the dynamics of the global market, while having the capacity to be internationally competitive;
- (b) To maintain and promote a harmonious industrial relations climate;
- (c) To create a safe and healthy working environment for all, where creativity and innovation thrive under the comfort of sound occupational safety and health practices;
- (d) To create an employment services system catering also to persons with disabilities, which is continuously monitored, and responds by the use of programmes to the demands of the labour market;
- (e) To promote the growth of technical and vocational education and training in order to enhance the competitive position of Barbados.

The Barbados Human Resource Development Strategy 2011-2016 will be the central focus of Government's thrust to build human capital to satisfy national development objectives across multiple sectors over the next five years. The success of this Strategy will be buttressed by the creation of an appropriate facilitating environment through strategic improvements in the public financial management systems to ensure greater fiscal prudence and a stable but robust macro-economic climate. Other supporting elements will be the Medium Term Fiscal Strategy and the Medium term Development Strategy. While these three interlocking macro systems will form the foundation for stability, growth and development, the interconnectedness of several national strategies across different sectors and ministries will provide the impetus for sustainable growth and development with the quality of the Barbadian workforce at the centre. The education and training sector therefore has a pivotal role to play in the national quest to produce highly skilled, well educated, competent and productive citizens.

Another vital contributing component is the quality and strength of existing businesses and the investment landscape. The facilitation of positive economic growth through the support of innovation and entrepreneurship, the emergence of new businesses, new industries and sectors hold the key to sustainable economic endeavours nationally. These will be driven by the quality of human resources participating in the generation of further economic growth and development. **[See Interconnection of Strategies Figure below]**

The implementing agency for the HRD Strategy will be the Ministry of Education and Human Resource Development. However, programme delivery will be spread across multiple ministries and agencies. This institutional mechanism will be further supported through the recruitment of a **Project Coordinator** whose mandate will be the facilitation of the implementation of activities under the five pillars of the Barbados HRD Strategy. Specifically, the Project Coordinator will provide project management expertise, monitoring of the implementation of the Strategy, and provision of relevant technical guidance. This Coordinator will work in close collaboration with the HRD Division of the MEHR.

Interconnection of Strategies



1.4 Conclusion

Many of the above challenges facing the HRD sector have one thing in common. They recognise the increasing dependence of enterprises on the skills of the workforce to add value to production and to provide high quality services. In the next decade, Barbados will increasingly come to depend on such skilled people. Their ability to continually update their skills will depend on the availability of relevant information to guide educational choices and on the flexibility of TVET institutions to provide quality programmes consistent with the changing demand of the business environment and the local economy.



CHAPTER 2.0

Creating an Enabling Environment for Human Resource Development

Human Resource Development in Barbados involves a number of policies, programmes and activities spread across several agencies in the public and private sectors. Major resources reside within the Ministry of Education and Human Resource Development and the Ministry of Labour. The Human Resource Development Strategy seeks to provide a comprehensive framework to enable more strategic, needs-based, targeted interventions within the sector, through the development of an appropriate enabling environment for coordination and delivery of human resource development services.

2.1 Institutional Architecture

The MEHR places emphasis on the development of several critical initiatives to support HRD including curriculum reform; improved certification of knowledge and skills; provision of second chance education; improvement of TVET; and quality assurance. The Education Division is charged with the mandate of shaping educational policy and implementing the appropriate strategies to provide quality educational opportunities that would allow Barbadians to contribute to the economic and social growth of the country. This responsibility is supported by the increased application of ICT in the collection and analysis of education data and statistics in a timely manner. This division also channels financial resources to increase the provision of tertiary education either through the provision of scholarships, awards, or grants and the payment of fees at the University of the West Indies. Educational opportunities are provided by Government-funded institutions such as the Barbados Community College, Samuel Jackman Prescod Polytechnic, and the Erdiston Teacher Training College. Furthermore, with the establishment of the Human Resource Development Division in 2008, the MEHR is now responsible for overseeing national HRD efforts through policy formulation and the creation of appropriate legislative frameworks. The HRD Division will therefore be responsible for the implementation of this HRD strategy.

Within the portfolio of the MEHR is the Barbados Accreditation Council (BAC) which focuses on developing a coherent system of tertiary education and training that assures excellence and integrity to all its stakeholders. One of the BAC's main roles is the registration of institutions offering post-secondary or tertiary education and training, and the accreditation of programmes of study and institutions in Barbados. This accreditation provides recognition of qualifications and transferability locally, regionally and internationally.

The Ministry of Labour plays an integral role in human resource development in its efforts to ensure that there is an adequate supply of trained manpower to support economic activity in Barbados. Through the activities of the TVET Council, the Ministry of Labour plans, coordinates and establishes standards and qualifications for TVET in Barbados. The TVET

Council also manages the *Employment and Training Fund* which provides financial support for education, training, and upgrading of skills in the labour force. The Barbados Vocational Training Board (BVTB) is the training arm of the Ministry that provides apprenticeship opportunities and offers skills training programmes at eleven centres throughout the island. Skill Upgrading opportunities are offered to workers in industry through the In-Plant Programme. Furthermore, through the operations of the National Employment Bureau (NEB), the Ministry of Labour provides career planning services to jobseekers. The Ministry's research department, the Manpower Research and Statistical Unit (MRSU), manages the Barbados Labour Market Information System and collects, analyses, and disseminates labour market information to all agents in the labour force.

The Ministry of Civil Service through its Personnel Administration Division (PAD) and the Training Administration Division (TAD), manages all public service staffing and educational needs. Considering that the Government is the largest single employer in Barbados, the efforts of this Ministry has contributed significantly to national human resource development. The Ministry of the Civil Service also determines the numbers and levels of posts to ensure each Ministry/department is adequately staffed to execute their mandates. Therefore, the ministry plays an integral role in the capacity building and institutional restructuring that would be required to support the implementation of this Human Resource Development Strategy.

The Ministry of Family, Culture, Sports, and Youth focuses on youth development and operates through three programming channels: the Barbados Youth Service (BYS); the Youth Development Programme (YDP); and the Youth Entrepreneurship Scheme (YES). Much of the work of the Youth Affairs Division is that of facilitation in determining social needs among the client population and the facilitating access to the appropriate resources within the various social service agencies. In this regard, this Ministry works with governmental, non-governmental organisations, international agencies, the private sector, and individuals to create and sustain the positive environment needed.

The Ministry of Commerce and Trade (MCT) has the overall responsibility of nurturing innovation and entrepreneurship and therefore has a number of departments and agencies involved in HRD. The Trade, Industry, and Commerce arms of the public sector seek to encourage economic development and the improvement of the quality of life of the people of Barbados through the facilitation of commerce, entrepreneurship and the protection of consumers. The National Council for Science and Technology (NCST) promotes science and technology, creativity and innovation to the public, particularly the youth. It offers technical assistance to persons seeking to research, develop, and commercialise new, innovative products and service ideas. This agency also acts as an information hub on science and technology and collects, analyses and disseminates reliable, current, and relevant information. The Ministry's Business Development Unit focuses on strengthening the international competitiveness of small and medium enterprises (SMEs) within the context of globalisation. These activities involve: developing a legislative framework for SMEs; organising educational sessions; and designing and implementing strategies, policies, and programmes for SME development.

Within the portfolio of MAFFI is the Barbados Investment Development Corporation (BIDC) which focuses on contributing to the successful and sustained development of the manufacturing, services, and small business sectors, characterised by emerging and financially strong companies committed to originality and continuous growth. The BIDC operates the Small Business Development Centre which offers an Innovation Support

Programme that provides technical and financial assistance for creativity in the development, commercialisation of new products and services.

The Barbados Statistical Service (BSS) also falls under MFE and has the mandate to collect, compile, analyse, abstract, and publish reliable and timely information relating to the social, economic, and general activities or conditions of the inhabitants of Barbados. This information facilitates HRD related research that guides decision-making process.

Several private, non-governmental organisations contribute to HRD in Barbados. The Barbados Small Business Association (BSBA) serves as the island's non-governmental, non-profit representative body for micro, small, and medium enterprises. This agency seeks to expand business opportunities for its members, provide education and development services and lobbies to ensure an enabling environment for the growth and sustainability of the SME sector. The BSBA also explores business financing possibilities for its members.

A number of public and private funding agencies also assist in the development of new entrepreneurs. The Enterprise Growth Fund Limited focuses on the development of a dynamic SME sector in the productive sectors, with strong profit-making and growth potential. The fund provides non-traditional financing instruments and professional expertise to new businesses with a focus on youth.

Annex 1 provides a summary of the existing institutional framework for human resource development in Barbados, while Annex 2 provides information on the key agencies currently involved in the sector.

2.2 The Provision of Education and Training in Barbados

Several agencies are currently involved in the provision of opportunities for formal and informal education.

2.2.1 Ministry of Education and Human Resource Development Facilities

The Ministry of Education and Human Resource Development offers a variety of courses and programmes through its secondary and tertiary institution network. In addition, five public secondary schools currently offer a continuing education programme. Each school coordinates and manages its course offerings, which consist predominantly of Caribbean Examination Council (CXC) *Caribbean Secondary Education Certificate* (CSEC) and *Caribbean Advanced Proficiency Examination* (CAPE) courses. Self-development courses offered at two of the schools.

The Erdiston Teachers' Training College offers several general interest courses to the public along with professional development courses for teachers and principals of schools. The Samuel Jackman Prescod Polytechnic (SJPP) operates a continuing education division that offers in excess of 60 courses to persons seeking opportunities to gain additional employment related skills and knowledge.

The Barbados Community College (BCC) offers undergraduate degrees as well as continuing educational courses include introductory management and business, accounting, social arts subjects, and technology including AutoCAD and ACCPAC). BCC's courses are focused on adults and are intended to enhance job skills. One of the departments of the BCC institution is the Hospitality Institute at Hotel Pom Marine, which offers approximately 22 part-time courses, designed to provide job related skills and knowledge.

The University of West Indies, through its Open Campus, offers courses at degree, certificate, and diploma levels as well as self development courses. The latter do not require any prerequisites and can help individuals to move up to the certificate and diploma levels.

In addition to providing tuition-free tertiary education, several scholarships and financial assistance programmes are available to facilitate the development of human capacity at the national level.

2.2.2 Ministry of Labour

The Ministry of Labour through the Barbados Vocational Training Board (BVTB) offers four main programmes to the public: The Skill Training Programme to the unemployed in 40 modules at eleven locations island-wide. Evening programmes at three of its training centre locations.¹² There are currently 19 courses in operation, all of three months duration. The evening programme targets adults who are already employed. The course design¹³ facilitates the opportunity for persons to either acquire new skills or upgrade existing skills. The Apprenticeship Programme is dual in nature. Practical training is offered in the workplace and theoretical training at an approved academic institution. An In-Plant Programme which offers customised training to industry as well as a Train-the-Trainer programme to persons in industry who perform a training function.

2.2.3 Ministry of Social Care, Constituency Empowerment and Community Development

Under the Ministry of Community Development 44 community centres offer a variety of short courses designed for personal development, as well as skills to be used in the community, home, for educational qualification, or for local employment. Interest in the programmes is widespread and demand for places is high.

2.2.4 Ministry of Family, Culture, Sports and Youth

The Ministry of Family, Culture, Sports and Youth has a Youth Mainstreaming project which offers alternate opportunities for youths to gain some basic vocational skills in courses at basic and advanced levels. The programme works with youth commissioners in most communities. The number of applicants for some courses exceeds the places available by 3 to 1. The Mainstreaming project runs courses at SJPP, BTVB, and at UWI. The Mainstream courses are tailored to suit students who have no CSEC or CAPE certificates.

2.2.5 Barbados Defence Force

The Barbados Defence Force offers continuing education courses in CSEC and CAPE categories, as well as a number of information technology courses. This programme primarily caters to adult audiences and is employment-related.

2.2.6 Quasi-Public, Non-Profit, Non-Governmental and Private Sector Organisations

There is an increasing privatisation of educational services. Organisations such as the Barbados Institute of Management and Productivity (BIMAP), National Initiative for Service Excellence (NISE), Advantage Caribbean, the Insurance Institute of Barbados, Prestige Accountancy College, and the Caribbean School of Business and Management offer evening,

¹² All Saints Training Centre, Six Roads Training Centre and the CLA Training Centre

¹³ DACUM modular curriculum method

part-time, or adult educational courses. Their programmes are predominantly demand-driven providing individuals with the necessary professional or commercially recognised qualifications or certification that their professions require.

2.3 Institutional Assessment of Key Agencies

To guide the process of creating an enabling environment for HRD in Barbados, a number of key institutions involved in human resource development were assessed in terms of their capacity, structure, strengths, weaknesses, and mandates in relation to the competencies that would be required to support the implementation of HRD programmes.

The approach examined the external environment and institutional factors such as history, mission, leadership, structures, human and financial resources, management systems, and an assessment of performance, and strategic linkages.

Profiles were developed on the following institutions:

- Ministry of Education and Human Resources Development (MEHR)
- Ministry of Labour (ML)
- Barbados Accreditation Council (BAC)
- Training Administration Division (TAD)
- Technical and Vocational Education and Training (TVET) Council
- Barbados Vocational Training Board (BVTB)
- Samuel Jackman Prescod Polytechnic (SJPP)
- Erdiston Teachers Training College (ETTC)
- Barbados Community College (BCC)
- Barbados Institute of Management and Productivity (BIMAP)
- Barbados Statistical Service (BSS)
- National Council for Science and Technology (NCST)

2.4 Key Findings from Institutional Assessment

In general, the institutions assessed were well established with high visibility and strongly defined structures. Despite resource constraints, all institutions had qualified, competent staff. Education and training, capacity building and additional staffing were therefore areas which required attention to underpin the development and implementation of the Strategy.

There was some evidence of linkages among the agencies although in some cases, these were not very strong. Many agencies had strategic plans or were in the process of redefining them. Almost all institutions had effective data collection as an objective, but were in varying stages of development of appropriate knowledge management strategies. There was also evidence of strong alignment between mandates, strategies, and the structure of most institutions, each legitimised by an Act of Parliament with clearly established reporting mechanisms and tripartite governance. However, in some institutions, weaknesses were observed as there was an absence of clear cut policies to guide the mandates and strategic direction.

Detailed profiles for each of the key institutions are included in Annex 3. Table 2.1 summarises the key recommendations for each institution.

Table 2.1: Summary Recommendations for Improvement of Institutional Capacity

Institution	Highlights	Recommendations
Ministry of Education and Human Resource Development	• Responsible for formulation of education-related and development policies, and for the administration and regulation of associated programmes. • Will be responsible for coordination of related agencies to facilitate holistic approach.	• Build capacity of HRD Division to manage the coordination of the system • Provision of HRD Strategy Coordinator • Expand Staff to include a Statistician • Technical assistance required in early phase of implementation
Ministry of Labour	• Competent staff, good research practices, well established procedures, excellent understanding of the labour market requirements, quick response mechanisms • Understaffed	• Requires institutional strengthening through expansion of Unit to include an Occupational Analyst and Statistician • Update the Barbados Standard Occupational Classification • Build capacity to conduct skills needs and assessment. • Staff education and training (study tours and attachments) • Re-establish the Labour Market Information Advisory Committee
Barbados Accreditation Council	• Has overall responsibility for quality assurance. • Will play critical role on the establishment of the NQF • Systems and structures in place • Understaffed • Expand membership of sub-committees to include BVTB and SJPP	• Technical Assistance to further develop the NQF • Additional Staff - Deputy Manager, Accreditation Officer, Quality Assurance Officers (2), Quality Assurance Manager, • Staff education and training (study tours) • Stronger inter-agency linkages through committees • Upgraded National Qualifications Register
Training Administration Division	• Provides education and training for public service • Education and training supply-driven • Limited currency of educational awards (certificates)	• Build capacity of Training Officers to conduct needs assessments, gap analysis • Should have responsibility of recommending and delivering educational courses • Strengthening of the accounting system through the upgrading of the post of Accountant, the upgrading of information systems, and the upgrading of research capability.
TVET Council	• Well established • Competent, flexible staff • Good knowledge of systems requirements • Understaffed • Inadequate accommodation	• Expand staff - Technical Officers (2) and HR Manager • Technical Assistance required: ○ Curriculum Development in CBET ○ Instructional Delivery in CBET ○ Upgraded Data Management and HR System • Education, training, and certification of staff required: ○ Training and Assessment ○ Quality Assurance/Audit Training ○ Study Tours and attachment to similar institutions

Institution	Highlights	Recommendations
		○ Research and Development (e.g. Tracer Studies) ○ Improved physical capacity ● Prior Learning Assessment Recognition System ● Aggressive Promotion campaign recommended
Barbados Vocational Training Board	● Well established, well known ● Wide course offerings ● Good research capability (tracer studies) ● Key institution in expanding access ● Under staffed, under resourced ● Offers career counselling	● Expand staff – Research Officer, (1), Research Assistant (1) Curriculum Development Officers (2) ● Career Guidance Officer (1) ● Entrepreneurship Tutor (1) ● Registrar (1) ● Officer – PLAR assessment ● Upgrading of Technical Instructors (study tours/Internship) ● On-going education and training for all instructional staff, upgrade to Bachelors and higher degrees from Diploma Status ● Education and training in Management of Vocational Training Centre for all Centre Managers – (TVET Administration Course) ● Build capacity at Skills Training Centres
Samuel Jackman Prescod Polytechnic, Erdiston Teachers Training College, Barbados Community College,	● All well established, well recognised, with wide programme offerings ● Continuing Education facility available at SJPP and BCC ● All articulate into higher education ● Strengthening the alignment of programme offerings to labour market demands required to support HR Strategy	● Facilitate access to NQF as key educational providers ● Education and training of all Teachers, Trainers and Facilitators in CBET: ○ Instructional Delivery ○ Assessment
Barbados Statistical Services	● Research arm of Ministry of Labour. Has responsibility to manage Barbados Labour Market Information System (BLMIS) ● Acts as “clearing house” of labour market information (LMI)	● Technical assistance required to: ○ Build capacity to standardise the collection of data across the system ○ Build capacity to facilitate quicker turn-around time for secondary users (e.g. MSRU)
National Council for Science and Technology	● Promotes science and technology, creativity and innovation to the public ● Offers technical assistance in research and development ● Establishes linkages with similar regional and international agencies ● Plays advisory role ● Understaffed, under resourced ● Limited inter-agency linkages ● Low profile	● Build Capacity in Innovation/Research ● Membership on one of the sub-committees of the Advisory Committee ● Establish “Centre of Excellence” to promote science and technology, creativity and innovation ● Explore synergies with National ICT Strategy

2.5 Conclusion

Human Resource Development in Barbados is spread across several ministries and agencies in the public sector, with major resources residing within the Ministry of Education and Human Resource Development, Ministry of Labour, and Ministry of the Civil Service. In addition, there is extensive provision of HRD being facilitated across the private sector. To create a harmonious enabling environment for HRD, consideration should be given to the following:

1. Effective coordination of HRD through the establishment and operationalisation of the HRD Division of the MEHR.
2. Formulation of a comprehensive national policy on HRD which facilitates collaboration in the implementation of HRD across Ministries and agencies.
3. The development and signing of a MOU to commit relevant Ministries and agencies to work collaboratively to achieve national HRD goals and objectives.
4. Enhancement of the LMIS and EMIS into a comprehensive system that incorporates data from all major stakeholders.
5. Analysis and dissemination of HRD information to all major stakeholders to facilitate planning, policy formulation, and general HRD decision making.
6. Government's commitment to providing encouragement and appropriate incentives for the private sector to continue to support HRD through training and professional development for staff by maintaining a minimum percentage of their annual budget for training, especially for front-line staff.



CHAPTER 3.0

Development of a National Qualifications Framework

A critical challenge that faces the region is the development of a competent workforce for sustained economic growth in the global economy. Human resource development, through well planned educational initiatives can contribute significantly to promoting the interests of individuals, enterprises, the economy, and society within the region. By helping individuals to gain access to decent work and sustainable jobs, and escape poverty and marginalisation, education and training, particularly technical and vocational education can also impact positively on the region's economic development, thereby achieving full employment, and promoting social inclusion. A well-structured educational system will enable individual and professional development, boost productivity, enhance competitiveness, and promote innovation and entrepreneurial activity. As all the human resource development objectives are inter-related, it is appropriate to utilise a National Qualifications Framework (NQF) as the foundation on which to build, enable and facilitate the development of individuals through lifelong learning.

The NQF is a framework on which standards and qualifications agreed to by educational stakeholders throughout the country are registered¹⁴. The NQF will be the major mechanism to transform education and training in Barbados. By design the NQF will:

- (a) Consolidate the delivery of education and training under a single framework;
- (b) Make it easier for learners to enter the educational system and to move and progress horizontally and vertically within it;
- (c) Improve the educational quality in Barbados;
- (d) Expand access to learning and work opportunities for all;
- (e) Enable learners to develop to their full potential.

3.1 Description of a National Qualifications framework

A NQF provides a comprehensive, nationally consistent, yet flexible framework for all qualifications in the educational system. The development, implementation, and effective utilisation of a NQF is one of the key planks on which the Human Resource Development Strategy will be built. The NQF recognises that the primary and secondary, vocational education and training, and tertiary sectors all have different educational, industry and institutional linkages. The NQF connects and combines these sectors into a single national framework.

¹⁴ Educational providers are registered, particularly in the early stages of developing the framework. Accreditation will occur over time with the steady application of standards, and monitoring.

The NQF is seen in many countries as a 'relational entity', as it is possible within such a framework to place or align a particular qualification within the overall structure. It is also seen in some areas as a tool to compare qualifications. The NQF is also an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. Each country or region has reasons for introducing a NQF. Regardless of the particular reasons, the framework brings order and structure to the educational system as it establishes the basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications both nationally and internationally.

3.1.1 Qualifications framework versus Qualification System

It is important that a distinction is made between a 'national framework' and a 'national system'. The NQF is one component of an overall qualifications system. A qualifications system is broad and includes inputs, processes, outputs, and all activities that result in the recognition of learning - such as policy development policy, institutional arrangements, learner characteristics, quality assurance, and awarding processes (Figure 3.1).

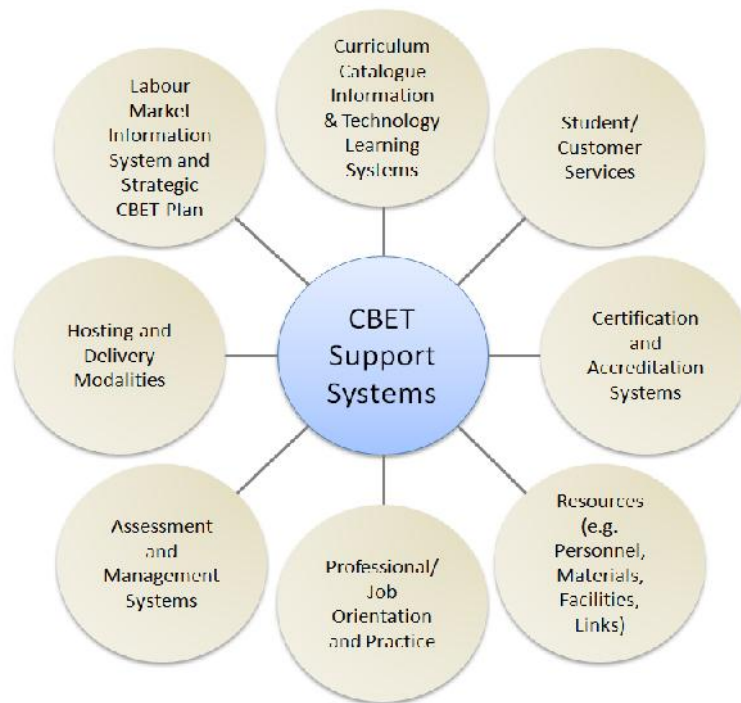


Figure 3.1: CBET Support Systems.

3.1.2 Benefits of the Framework

Implementing a NQF and its associated systems brings with it several benefits. By way of design, the framework:

- (a) makes it easier for learners to enter the educational system and to progress within it;
- (b) opens up learning and work opportunities for those who require a second chance to re-enter the formal education system or to enter the world of work;
- (c) enables learners to develop to their full potential and thereby support the social and economic development of the country as a whole;

- (d) promotes access, transfer and progression into, within and between programmes of learning;
- (e) allows for the update and improvement of standards;
- (f) improves the overall quality of the educational system;
- (g) facilitates the mapping and inclusion of awards such as the CVQ/NVQ within the educational system and promotes the mobility of labour;
- (h) promotes life-long and life-wide learning¹⁵ (Figure 3.2);
- (i) increases transparency and improves the understanding of the educational system;
- (j) enables employers to understand qualifications which prospective employees might have and where they fit into the overall educational system;
- (k) makes the educational system more demand-focused.

It is the intention of the Government of Barbados to realise these benefits through the introduction of the NQF and the supporting qualifications system.

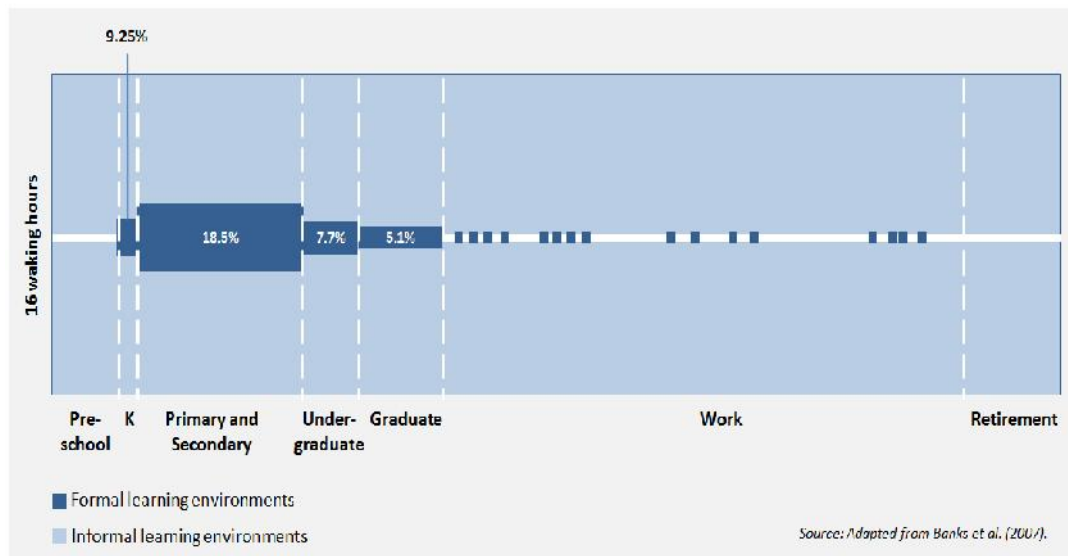


Figure 3.2: Life-long and Life-wide Learning

3.1.3 Components of a National Qualifications Framework

A qualifications framework is usually seen in terms of a grid consisting of national qualifications within the country. NQFs achieve added value by means of a structure, or by having functions associated with them. A number of factors are used in defining and developing the framework. These include:

- (a) The scope of the NQF
- (b) Qualifications for various sectors (standards, learning outcomes, and credits)

¹⁵ Life-long learning and life-wide learning describes the concept of learning in which individuals learn throughout the life-span from formal, non-formal, and informal sources. (www.eric.gov).

- (c) Development of a unified system of credits
- (d) Levels and descriptions of the levels
- (e) Mapping and referencing
- (f) Quality assurance mechanisms
- (g) Monitoring and validation procedures.

All the elements should be supported by policies, clear guidelines, principles, and arrangements for implementation and monitoring of the framework by the Barbados Accreditation Council.

3.2 General Observations

Barbados already has in place several of the necessary components of a NQF. The major activities are facilitated through the work of the TVET Council, and the Barbados Accreditation Council, with support from a number of educational delivery entities: the University of the West Indies, the Open Campus of the UWI, Training Administration Division, Barbados Community College, Erdiston Teachers' Training College, BIMAP, Samuel Jackman Prescod Polytechnic, and the Barbados Vocational Training Board. Both the TVET Council and the Barbados Accreditation Council have well-defined structures, systems and processes but insufficient staff and resources to effectively and efficiently manage and coordinate the institutionalisation of the framework on a large scale.

Generally, a number of frameworks have been developed in the region but are not widely used. There is a need for effective and efficient use of a national qualifications framework by major stakeholders such as educational providers and awarding bodies such as the Ministry of Education, CXC, and UWI. In addition, the role of supporting entities such as the Ministry of Labour, through its Manpower Research and Statistical Unit, for the provision of relevant, current labour market information requires some improvement.

3.2.1 Scope of the National Qualifications Framework

The first structural element that has to be considered is how broad the scope of the NQF will be. Should it cover all national qualifications, including those within the educational system, such as tertiary or higher education and/or vocational education? Secondly, to what extent should the NQF be linked to different parts of the educational system - that is, will it display common levels for the different parts, so that they are linked through similar learning outcomes, units and assessments? These two elements are critical as they enable the qualifications framework to be easily understood, promote access, facilitate the transfer of learning, and enable progression in lifelong learning.

The degree of detail is therefore a critical element in developing the framework. If a framework is too general (containing only general statements), it will not provide enough guidance either to employees as to what is expected of them or to the assessors who have to assess the workforce against these terms. If, on the other hand, it is too detailed, the entire process becomes excessively bureaucratic and time-consuming to manage.

Whereas the elements of two types of frameworks exist in the region, there is no official NQF in use in Barbados. Examples of the two regional frameworks approved by CARICOM and in use in some parts of the Region are shown in Tables 3.1 and 3.2.

Table 3.1: Regional Tertiary Qualifications Framework

Level	Description	Qualifications
Level 7	Learner displays ability to create and interpret new knowledge, and the ability to conceptualise, design and implement projects for the generation and application of new knowledge. They will have mastered the skills and techniques of research and advanced academic enquiry	Academic Doctorates e.g. PhD Professional Doctorates e.g. DBA; DM; EdD
Level 6	Learner displays a mastery of knowledge, all of which are from current frontiers of discovery and understanding in an academic or professional discipline. They will have conceptual understanding that will enable them to evaluate critically current research and new knowledge. Their conceptual abilities will support decision-making in complex and unpredictable contexts, involving professional judgment	Masters degrees; Postgraduate Diplomas; Professional qualifications for accounting, legal and other professions
Level 5	Learner has moved from empirical to conceptual approaches to problem solving. Apply knowledge and skills to difficult and complex problems, requiring initiative and motivation. There is some mastery of academic knowledge as measured by research and development	Baccalaureate; Bachelors degrees; Honours Degrees; Graduate Diploma
Level 4	Learner develops cognitive skills of analysis, synthesis, and evaluation to support decision making. Acquires set of occupational skills to apply to specific occupational area	Associate degree; Higher Diploma; Advanced Diploma
Level 3	Learner develops knowledge and skills of evaluation and interpretation that will support decision making such as solving problems in the workplace or academic studies	Undergraduate Diploma
Level 2	Learner demonstrates comprehension of underpinning principles of particular occupational or academic area such as learning how and why things are done in particular ways	Advanced Certificate
Level 1	Learner acquires basic knowledge and skills for occupational competence at entry level to a profession or progress to tertiary education at higher levels	Certificate

Source: Adapted from CARICOM Secretariat

Table 3.2: CVQ/NVQ Levels, including the Competencies at Each Level

Level	Description
Level 5	Graduate/Professional Competence in theoretical and practical knowledge in developing strategic solutions to abstract and concrete problems relevant to a particular field of learning or occupation; autonomous with significant responsibility for the management of people and projects
Level 4	Manager/Entrepreneur Competence involving the application of a range of fundamental principles and complex techniques with personal accountability for the analysis, design, planning, execution and evaluation of work functions
Level 3	Technician/Supervisor Competence in supervisory capabilities demonstrated through the responsibility for the work of others and the allocation of resources with strong problem solving, planning and designing skills
Level 2	Independent/Skilled Worker Competence in a broad range of complex, non-routine work activities performed in a wide variety of contexts. Considerable control, responsibility and autonomy are demonstrated and guidance of others is often required
Level 1	Supervised Worker Competence in a variety of routine work related activities performed in different contexts most of which requires supervision during the early stage of employment

Source: CARICOM Secretariat

It is advisable that for transformation or reform of the educational system the two frameworks be brought together under one NQF. This may be a challenge as it requires the bringing together of the traditional academic and occupational, outcomes-based approach to learning and assessment. The best solution usually lies in generating a framework that takes into consideration business relevance, while meeting the human resource development needs of Barbados. In this regard, three types of frameworks can be considered for adoption: sector, bridging, and integrating (Table 3.3).

Table 3.3: Type of Frameworks

Type of framework	Characteristics
Sector	A defined series of qualification levels for one or more education sectors (general, vocational education and training, tertiary)
Bridging	A common set of qualifications covers all education sectors. This framework forms a formal link between different educational sectors
Integrating	A single set of levels and descriptors covering all educational sectors. This framework forms a formal link between educational sectors

Source: Adapted from EQF Note 2, p. 29, 2010

Recommendation

It is recommended that an Integrating Framework be adopted as it is comprehensive and provides a strong link between different educational sectors, represented by a single set of levels and descriptors specifying what the learning outcomes should be at each level and for each type of qualification and is inclusive of all educational sectors within the country.

3.2.2 Qualifications within the Framework

The shift to outcomes-based approaches requires that the qualifications awarded are expressed in terms of what the learner should be able to do on completion of a programme of learning. The common definition of outcomes within a qualification will enable learners to independently gain recognition for what they are able to demonstrate by way of knowledge, skills, attitude, and ability regardless of whether the competencies were learned through formal or non-formal means. Expansion in the use of CVQs/NVQs through the qualifications framework will enable learners to access education and training as they will be recognised by academic institutions for credit as well as for recognition of competence in the workplace.

Learning outcomes have been defined for several courses offered nationally (e.g. NVQs, courses at the SJPP and BVTB). However, for the integrated qualifications framework that is being proposed, much work would have to be done at the institutional level to shift and align the courses using the outcomes-based approach. Each qualification in the educational system would then have to be examined and evaluated in terms of its outcome and thereafter mapped or registered onto the framework.

Recommendation

It is recommended that the Barbados Accreditation Council host the NQF as it is already playing a role in registering post-secondary and tertiary educational providers. However, technical assistance to that agency will be required to map all the awards (qualifications, certificates, diplomas etc) that would comprise the offerings within the framework.

3.2.3 Levels and Descriptors within the Framework

Recommendation

There needs to be agreement among the social actors on the definition of levels and their description based on clear learning outcomes. The common set of descriptors to be developed for the levels will apply across both occupational and knowledge fields.

The recommendation is to develop a 10-level Qualifications framework thereby allowing for an easier alignment of both academic and technical and vocational frameworks. All stakeholders including employers, trade unions, public and private interests need to agree on the levels and their descriptors. This has to be accomplished through stakeholder consultations, facilitated by the BAC.

A 10-level qualifications framework is consistent with the current global movement towards a Transnational Qualifications Framework (TQF) as illustrated in Table 3.4.

Table 3.4 Architecture of the Transnational Qualifications Framework

Level	Qualification Title	Minimum Credits
10	Doctoral Degree	360
9	Masters Degree	240
8	Post Graduate Certificate and Diploma; Bachelor Degree with Honours	120
7	Bachelor Degree; Graduate Certificate or Diploma	360
6	Advanced/Higher Diploma; Associate Degree; Foundation Degree	240
5	Diploma	240
4	Advanced Certificate	120
3	Certificate III	40
2	Certificate II	40
1	Certificate I	40

Source: Commonwealth of Learning. (2010). *Transnational Qualifications Framework for the Virtual University for Small States of the Commonwealth*

3.2.4 Quality Assurance Mechanisms

Quality assurance is “an all-embracing term referring to an on-going, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining, and improving) the quality of a higher education system, institutions, or programmes. As a regulatory mechanism, quality assurance focuses on both accountability and improvement, providing information and judgements through an agreed upon and consistent process and well-established criteria.”¹⁶

Figure 3.3 represents the total system in which quality should be assured, from the planning stage through to certification and evaluation. Table 3.5 was developed from assessing the current qualifications system of Barbados.

¹⁶ Vlasceanu, Grunberg, and Parlea, 2007. Quality Assurance and Accreditation – A Glossary of Basic Terms and Definitions

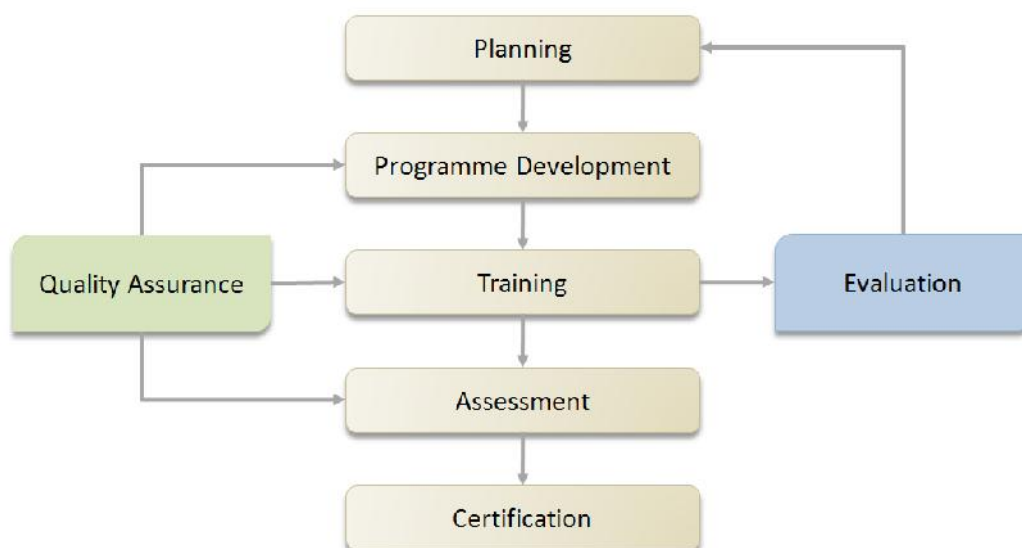


Figure 3.3: Quality Assurance in the Certification and Qualifications framework

Table 3.5: Managing and Monitoring Quality in the System

Managing the Qualifications framework	Status
Validated or Approved Qualifications	S
Registered Providers	√
Accredited Institutions	-
Accredited Programmes	-
Flexibility for articulation between levels	-
Credit system in place	-
Stakeholder involvement	L
Management of Teaching and Learning	Status
Facility standards available and used	-
Approved Centres	-
Educational standards for teachers and TVET Professionals	-
Sufficient educational providers	-
Well maintained up-graded, outfitted institutions (current requirements)	-
Available educational material (e.g. curricula) in line with labour market requirements	-
Institutions interacting with world of work (e.g. on-the-job experience, internships)	L
Teaching/Instructional delivery monitored	L
Qualified, competent staff	S
Career guidance available	S
Management of the Assessment and Certification	Status
Approved standards for assessment and Certification	√
Available Centres (including institutions and enterprises)	L
Prior Learning Assessment and Recognition (PLAR)	-
Learners assessed against standards	L
Competent, certified assessors	S
Awarding Body/bodies in place	√

KEY: √ = In Place; L = Limited; S= Some

Having a quality assurance system ensures that there is coordination among the various stakeholders such as Ministry of Education and Human Resource Development and the Ministry of Labour. Whereas there are some established quality assurance mechanisms in place and operationalised primarily through the Barbados Accreditation Council and the TVET Council, the BAC has sole responsibility for the accreditation of institutions and programmes at the post secondary and tertiary levels.

However, given the mandate of the TVET Council to expand access to education and training and to certify the Barbadian workforce to international standards, human, physical and technological resources would need to be expanded to both the BAC and TVET Council to enable the inclusion of all the stakeholders in the NQF.

Recommendation

The recommendation is to strengthen quality assurance mechanisms in education and training institutions to ensure that the competencies, skills, and knowledge of individuals are continually satisfying the demands of the labour market as they evolve. This would require certain additional human resource inputs into the existing mechanism.

3.2.5 Monitoring and Validation Procedures

The flexibility built into the NQF allows for the assessment and certification of learners from formal and non-formal settings. At present, there is little monitoring and/or validation of formal and non-formal procedures of learning, assessment and certification within the qualifications framework, and as such access for at-risk or drop-outs or adults requiring a second chance to re-enter the educational system is limited.

Recommendation

It is recommended that all post-secondary and tertiary educational institutions provide prior learning assessment and recognition opportunities for students. In addition, at least two existing centres (SJPP and BVTB) should be expanded to accommodate and offer prior learning assessment and recognition services. Both institutions would be monitored as entities within the framework.

3.3 Implementing the NQF Using the Competence Based Approach

It is intended that the competence-based approach to education, training and assessment forms part of the qualifications framework. This approach focuses on outcomes, has greater workplace relevance, assumes assessment of the individual as a judgement of competence, and facilitates credit transfers and articulation. At least five critical elements are essential for competence-based education and training:

- (a) Competencies to be achieved are carefully identified, verified and made public in advance (published).
- (b) Criteria to be used in assessing achievement and the conditions under which achievement will be assessed are explicitly stated and made public in advance (published).
- (c) The instructional program provides for the *individual* development and evaluation of each of the competencies specified.

- (d) Assessment of competency takes the participant's knowledge and attitudes into account but requires actual performance of the competency as the primary source of evidence.
- (e) Participants progress through the programme *at their own rate* by demonstrating the attainment of the specified competencies.

3.3.1 Focus on Outcomes

The primary emphasis is on the specification and assessment of outcomes referred to as *competencies*. These outcomes are clearly identified and communicated as performance indicators, used to establish certification frameworks, and monitor progress towards the achievement of desired results. Under this system, outcomes are expressed as explicit, observable workplace performance, so that the needs of employment can be clearly communicated. The goals of programmes are redefined and communicated with greater precision and judgments on the extent of attainment of any particular competency.

3.3.2 Greater Workplace Relevance

Under CBET, programmes are designed in an effort to make them more relevant to workplace requirements. This normally begins with an analysis and identification of workplace competencies, which are then organised into a set of 'competency standards' for an occupation. Standards are firmly based on the needs of the job and not on assumptions. Competency-based educational reforms look to industry to take the lead in developing appropriate standards and to involve persons in the workplace as widely as possible in determining and endorsing competency standards.

3.3.3 Assessments as Judgement of Competence

The performance criteria and the conditions under which achievement will be assessed are explicitly stated and made public in advance. Assessment of competency takes the learner's knowledge and attitudes into account but requires actual performance of the competency as the primary source of evidence. The 'acid test' is a process of collecting evidence and making judgement on whether competence has been achieved. Learners are provided with a record of the competencies already achieved and those still to be achieved.

3.3.4 Improved Articulation and Credit Transfer

The knowledge and skills of learners are assessed as they enter a programme. Credits are applied for competencies already attained. Prior learning is recognised as contributing towards a competency. Mutual recognition of competencies across occupations is facilitated and transferable across programmes and institutions (Figure 3.4).

3.3.5 Features of the CBET System

There are three main sub-systems of any CBET system - Development, Delivery, and Assessment (Figure 3.5). The model uses Competency Standards as the building blocks of all activities and the basis for assessment. The standards are clustered to form the basis for CVQ/NVQ assessments, provide the linkage between business and the educational system, and are units of measure for conducting educational needs and labour market analyses. Competencies are achieved through various pathways and delivery arrangements including prior learning and are taught through small learning units (modules) designed to match defined workplace competency requirements. Assessment is designed to ensure each learner has achieved the required learning outcomes.

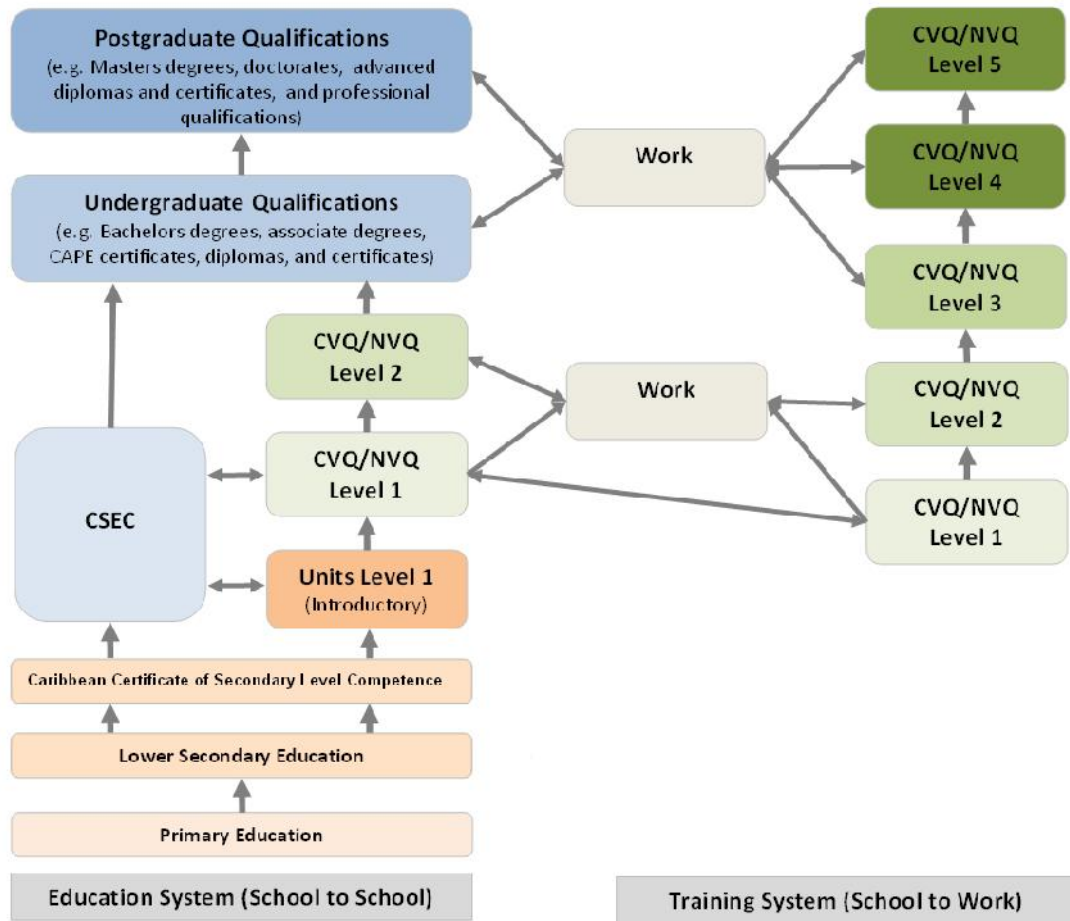


Figure 3.4: Progress Routes in a Seamless Educational system.

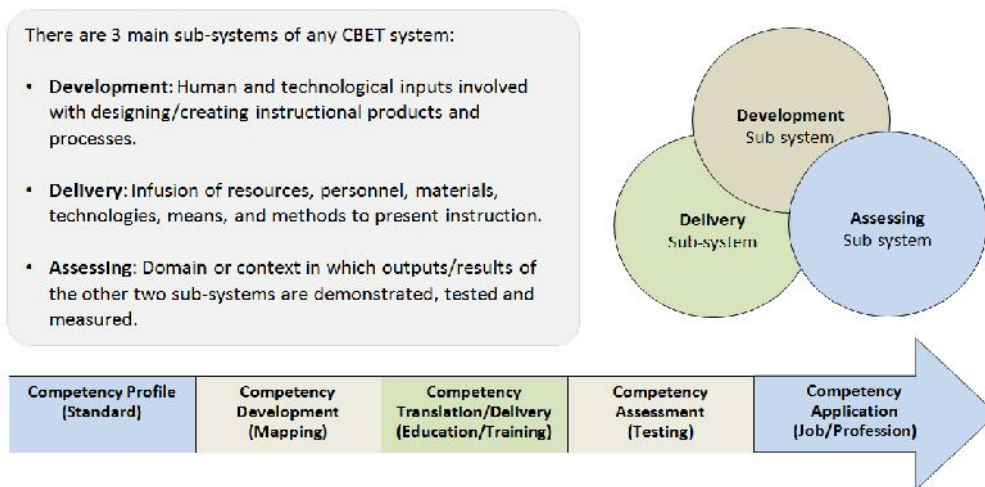


Figure 3.5: Competency in CBET system and subsystems.

Recommendation

A modular approach should be taken where each module is designed to be self-contained so that successful completion of education and training in that module ensures the acquisition of the minimum skill levels for performing the activity under actual working conditions.

3.3.6 Policy

The NQF provides a means for simplifying, structuring, classifying, and valuing existing qualifications and awards from all educational areas. The NQF is also useful in facilitating the mobility of learners and skilled workers across the CARICOM region. The detailed requirements of introducing a NQF include systems and processes for framework utility. However, appropriate policies and guidelines will be required for effective implementation, validity, and visibility of the NQF and to ensure compliance.

3.3.7 Stakeholder Involvement

The effectiveness and efficiency of the qualifications system will depend on the proper management of the functions of each of the subsystem. Stakeholder involvement at all stages of implementation is equally important. Table 3.6 is indicative of the functions within the system and the relationship with social actors involved in implementation.

Table 3.6: Functions and Suggested Responsible Agency

Main Functions	Actors	Overall Responsibility
Stakeholder Involvement	All (MEHR, ML, BVTB, TVET Council, BAC, Government departments., Trade Unions, Educational Providers, Professional Bodies, Employers' Confederation, Educators, Career Guidance professionals, Awarding Bodies , NGOS etc)	MEHR
Policy and Guidelines	Committee	MEHR
Standards and Qualifications Development	Industry Representatives, ML, TVET Council	TVET Council
Managing the Learning Process	Educational Providers, SJPP, Erdiston, MEHR, TAD, BCC, UWI	MEHR
Development of CBET Curricula, Learning Materials	SME, Instructional Designers, Curriculum Writers	TVET Council
Career Guidance, Job Orientation, Placement	All educational providers	NEB
Quality Assurance	BAC, TVET Council	BAC, TVET Council
PLAR	SJPP, BVTB	BAC, TVET Council
Records Management, Data Processing and Certification	MEHR, TVET Council	MEHR TVET Council
Education and Training of TVET Professionals	TAD, TVET Council, Erdiston, BCC	MEHR
Monitoring and Evaluation (e.g. Tracer Studies)	All educational providers, ML, MEHR, TVET Council, BVTB	ML/MEHR

3.3.8 Resourcing

The educational system consists of inputs, processes, and outputs (Figure 3.6). It is important that there is a strong commitment to the resourcing of the system. The process

of funding the standards underpinning the qualifications system has to be considered. Other elements such as educational materials, education, and training of personnel, establishment of career guidance and PLAR centres, and the upgrading of facilities are also factors to be considered.

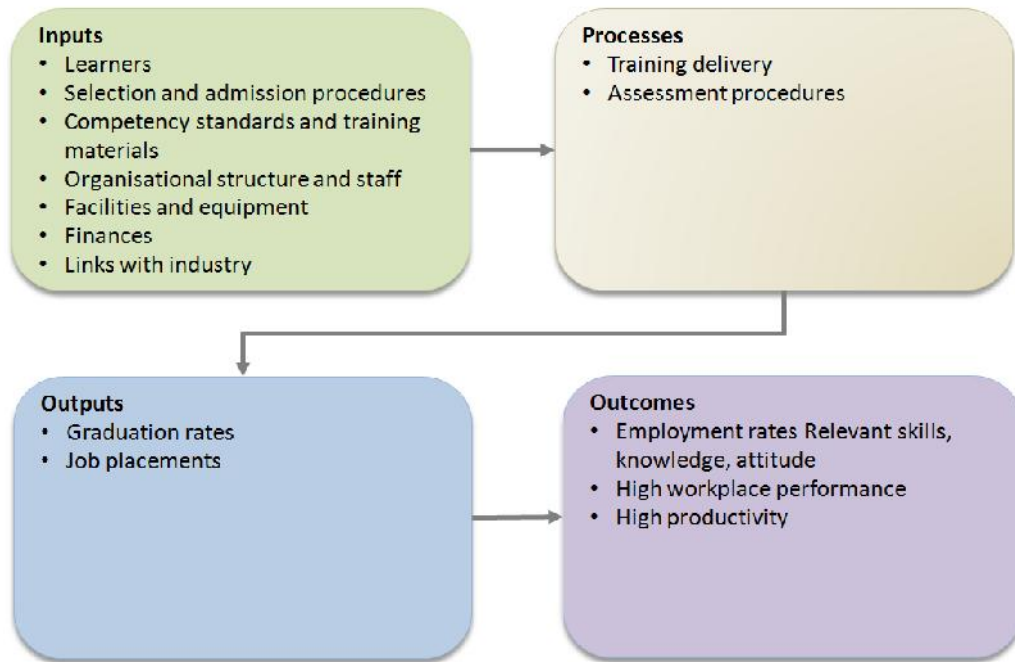


Figure 3.6: The Process Concept of Education and Training.

3.3.9 Education and Training

Introducing a new national programme such as the NQF will require the thorough development of personnel. These include faculty, teachers, tutors, instructors, facilitators, managers of educational institutions, employers, parents, and learners.

3.4 Success Factors

A number of conditions are required for the successful implementation of the NQF:

Growth, Familiarity and Use Over Time - Developing standards and procedures for the NQF takes time, and the social processes involved in their application require time to become familiar and entrenched in the society. Through promotion and use of the framework, it will become an integral part of the educational landscape while building confidence.

Stakeholder Involvement - Stakeholder involvement is critical for its success. The framework takes time to become populated and involves more than just compliance; it may also require a review of current processes and programmes of educational providers. The NQF aims to apply common principles across an educational system and is assisted by achieving consensus with critical stakeholders.

Effective Mechanisms for Coordination - The framework is an instrument or a tool which unifies the educational system, and therefore needs mechanisms for coordination, for

pooling the interests of stakeholders and for managing the dynamic processes in its development and implementation.

Flexibility - The framework should be flexible to accommodate different types of learning, to fit different institutional types and ensure the involvement of all stakeholders, especially educational providers who may feel threatened by the introduction of new guidelines.

Labour-market Demands - The fundamental principle of the framework is the need for alignment with the institutions, educational system, and those within the labour market. This can be a challenging proposition and it requires that skills are strongly in demand in the labour market. Timely information, currency, and relevance add to the effectiveness of the framework.

Alignment with National Interests - Finally, success of the implementation and impact of a framework will depend on its alignment with national policy, institutional priorities, and its use. Consistency in the use of NQF policies and guidelines across different branches of Government, such as education and labour ministries is important to the success.

3.5 Promotion and Visibility

A national promotional campaign would be useful in ensuring all professional bodies, providers, employers, employees, teachers, trainers, young adults, and parents are aware of the qualification system and its benefits. Success stories may be used to encourage participation, while expectations should be managed to prevent resistance.

The following activities can help to build the commitment of employees and managers towards effective use of the NQF.

- (a) Involving managers and employees in design and implementation of the framework.
- (b) Holding group briefings to explain the competency approach of the framework.
- (c) Providing education and training to managers about the use of the framework to assess and manage staff.
- (d) Providing information, education, and training to all employees.

3.6 Conclusion

The development, implementation, and effective utilisation of an integrated NQF to which all stakeholders will subscribe presents a new opportunity for the systematic and coordinated development of the human capital of Barbados. It also represents one of the key planks on which the Barbados Human Resource Development Strategy is built. While the NQF recognises that the primary and secondary, vocational education and training, and tertiary sectors all have different educational, industry and institutional linkages, the NQF will seek to connect and combine these sectors into a single national, framework. The emphasis on outcomes-based approaches to education and training is expected to command greater confidence in the qualifications and awards granted to individuals. It will also open up learning and work opportunities for those who require a second chance to re-enter the formal education system or to enter the world of work. Employers will for the first time have access to a framework of qualifications which will give them a clear understanding of where prospective employees fit into the overall education system and the competencies

which they can bring to the workplace. The NQF will also go a long way in supporting lifelong and life-wide learning which must be reinforced by ensuring flexibility in the education and training system so that it becomes more demand driven.



CHAPTER 4.0

Developing a Demand–Driven Educational System

Today, an individual's employability depends on the combination of their job-specific and soft skills. As global economy changes, so too are the requisite skills for employment. As a result, educational planners would like information on current and future skill needs to feed into their plans for the post secondary education and educational institutions, since the mismatch between skills supply and demand has high economic as well as social costs. Government itself, as well as Training Institutions need to know which type of education and training should be expanded and which should be cut back, what education, and training should be subsidised, what should be paid for by trainees or employers.

4.1 Developing Labour Market Information

A demand-driven educational system seeks to maximise the return from investments in the system. Such a system must be supported by a labour market information system capable of providing the following information:

- The demand for different occupations and their changing work content.
- The emergence of new occupations and redundancies due to technological changes and structural shifts across sectors in the economy.
- School to work transitioning, specifically the employability and career opportunities of young persons entering the labour market.
- Future skill requirements of the economy.
- Recurrent manpower shortage areas and analysis of the causes and consequences of such occurrences.
- How individuals acquire skills, knowledge and competencies.
- The effects of economic or social policies on particular groups such as the youth, men, women, or the disabled.

Such information would guide the development of effective HRD policies and programmes through the establishment of stronger linkages between the educational systems and the labour market. The Labour Market Information System would also guide decisions on the formulation and implementation of educational programmes. Labour market analysis would help shape the curricula and the types of educational programmes to ensure that graduates are equipped with the appropriate skills for an ever-changing marketplace. It would also improve career planning, labour exchange services, delivery of active labour market programmes, and rapid response services in the aftermath of crises.

Currently, the Barbados Labour Market Information System produces and disseminates a wide array of labour market statistics and economic data which are used to signal changes in

the labour market. However, the analytical dimension of the Labour Market Information System requires strengthening in three main areas:

1. Skills Needs Assessments
2. Tracer Studies and Longitudinal Surveys
3. Upgrading the Barbados Standard Occupational Classification (BARSOC)

4.1.1 Skills Needs Assessments

Currently, only qualitative skills needs assessments are conducted for critical sectors in Barbados in a somewhat ad hoc manner. This process involves the conduct of focus groups with umbrella bodies that operated within the sector and a few employers. To facilitate proactive human resource development programmes, there is a need to adopt a more systematic approach of qualitatively and quantitatively assessing current and future skills needs to determine potential shortages.

Traditionally, a manpower planning approach sought to identify all skills needs in the entire macro economy. However, there was a paradigm shift towards sectoral analysis where manpower assessments are only made in high priority sectors, which are considered important for economic and social development. Under this approach, there is also a de-emphasis on forecasting demand for low level skills which could be satisfied by education and training on demand and flexible educational programmes. The focus on this approach is more on high level skills which are believed to be critical to each sector's growth and development.

This sectoral approach is more appropriate for Barbados and would involve sector surveys and consultations to identify the key skills shortages which adversely affect the sector, the causes of these shortages, the adequacy of educational institutions to meet sector requirements and the extent of private sector education and training through formal educational programmes either in-house or contracted out. Barbados is no longer a low wage economy and cannot be expected to compete in low skill activities (e.g. in such sunset industries as textile manufacturing).

The Medium-term Development Strategy, 2010-2014 anticipates that Barbados will increasingly move into more service-oriented sectors, which will require higher level skills. For middle-level and high-level skills there is a longer-term gestation period of planning and delivering courses at this level, whereas lower level skills can be rectified by ad hoc short-term courses (if the educational institutions are sufficiently flexible). Sectoral studies should therefore focus more on higher levels which take longer to replace.

Where there are particular skill shortages that cross several sectors, in-depth studies should be conducted on specific key cross-sectoral occupation (or group of related occupations), such as accountants, auditors and accountant assistants. For cost reasons these should be done consecutively, not concurrently. Two cross-sectoral occupational areas that should be assessed in the near future are accountants and ICT staff.

4.1.2 Tracer Studies and Longitudinal Surveys

These studies seek to examine the employability of persons exiting the educational system by monitoring how they fared in the labour market. Did the graduate find a job? Is the job in the area of education and training? Was additional education and training required?

These types of questions provide evidence on the general receptiveness of employers to educational programmes and can be highly instructive and informative to the design of curriculum that is reflective of the needs of the labour market. Furthermore, tracing the employment patterns of both graduates and drop outs provides a better understanding of the dynamics of the labour market, which would enhance the effectiveness of HRD policies and programmes.

4.1.3 Upgrading the Barbados Standard Occupational Classification

For the Labour Market Information System to provide information to the necessary detail and precision, a dictionary of occupations is required. This document provides detailed profiles of the occupations, along with qualifications and specific tasks and duties that each occupation performs. For Barbados, this information is captured in the Barbados Standard Occupational Classification (BARSOC) which also provides a system for the occupational categorisation of labour market information.

It is however important to recognise that the business environment and the Barbados labour market are dynamic, causing the nature and structure of some occupations to change. In addition to changes in existing occupations, there are new occupations that are appearing in the local labour market environment. Consequently, there is an increased need to update the BARSOC to take account of current trends and developments that are occurring in the Barbados labour force.

4.2 Promoting Lifelong and Life-wide Learning

Learning and a sound education are at the centre of developing human potential. Whether accessed through formal, non-formal, or informal structures, learning helps to foster the ability to think, create, and solve problems. In addition, learning at any age or stage has the potential to maximise the talents and skills of individuals, contributes to higher productivity, and enhances the opportunity to achieve personal aspirations and societal goals.

Lifelong and life-wide learning involve the acquisition and updating of abilities, interests, knowledge, and qualifications from pre-school years to post-retirement. This approach promotes the development of knowledge and competence that will enable each citizen to adapt to the knowledge-based society and actively participate in all spheres of social and economic life, taking control of one's future. Lifelong and life-wide learning value all forms of learning including: formal learning such as degree courses, diplomas, and certificates; non-formal learning such as vocational skills acquired at the workplace; and informal learning whereby individuals acquire attitudes, skills, and knowledge from daily experiences and interactions with others.

A lifelong and life-wide learning system becomes effective and successful when a learning culture is evident. Extended learning needs to have a higher profile in Barbados, both in terms of image and by providing incentives for the people most reticent to opt for learning, such as retrenched workers, unemployed youth, retired persons, widows and widowers, and mothers who have been out of the workforce for a few years.

There are several established contexts for lifelong learning beyond traditional 'bricks and mortar' schooling:

- **Home schooling** where this involves learning to learn or the development of informal learning patterns;

- **Adult education** or the acquisition of formal qualifications, work, and leisure skills later in life;
- **Continuing education** which often describes extension or not-for-credit courses offered by higher education institutions;
- **Knowledge work** which includes professional development and on-the-job education and training areas;
- **Personal learning environments** or **self-directed learning** using a range of sources and tools including online applications

4.3 Strengthening Career Planning Services

Education has traditionally played a major role in the preparation and training of human resources to cater to social and economic development. While this important role was recognised locally, the establishment of a link between the products of the education system, that is, school leavers with appropriate knowledge, skills, and attitudes and the demands of employers and the labour market, was non-existent for several decades, particularly in the early post-independence period.

The globally competitive environment has seen increasing requirements in most occupations for academic knowledge, technical and employability skills. The demand for more skilled workers requires more effective career planning with better linkages between educational institutions and the labour market than ever before. A vital part of any career plan is possessing the ability to learn, and learning to learn, as the foundation for lifelong learning and career advancement. Given the exponential increase in information available today, people must be knowledgeable in how to access, select and use information to satisfy their needs and transform that information into useful knowledge.

Efforts at establishing some form of career counselling services to better prepare school leavers for entry into the labour market were only realised in the late 1980s. In 1989, Guidance and Counselling was formally introduced in secondary schools in Barbados. An important part of the policy and programme involved counselling students in several areas including: matters of educational and career concerns; utilising aptitudes and abilities for identifying occupational skills; selecting an occupation; setting career goals and related subject options; and collecting and disseminating up-to-date information on trends in employment and requirements for tertiary institutions. However, within schools, these responsibilities fall onto a limited number of guidance counsellors who are also responsible for addressing any social and psychological problems of students. As a result, the effective delivery of career counselling and planning have been compromised. Building on the existing network of the Guidance Counsellors Association of Barbados, a **National Career Planning and Counselling (NCPC) Unit** under the MEHR will be established to coordinate such activities and to provide the necessary support.

The NCPC Unit would be responsible for effectively utilising labour market and human resource information and other research to provide a pool of information for dissemination to schools and educational institutions. Such information is important to guide individual and collective investment in fostering employability skills and developing a competitive and flexible workforce. In so doing, the likelihood of perpetuating the 'mismatch' between education and training and the demands of the labour market would be reduced. The Unit will also seek to provide an efficient and effective job placement and internship system for

students to acquire some valuable work experience and on-the-job training that would facilitate their transition into the workforce.

Upon leaving the school system, there is still a need for continuous career counselling and planning support. It is essential for the education, training and learning system for entry level workers, seasoned workers and the unemployed to make informed decisions about ways to gain and maintain skills and employment. It is also vital in developing a culture of lifelong learning. People need assistance in negotiating and navigating several alternatives for knowledge and skills acquisition in a competitive labour market to maximise the learning and training opportunities that can enhance their careers.

The National Employment Bureau under the Ministry of Labour provides such services. However, this agency also suffers capacity related issues to meet the needs of the adult population. There is a need to address these issues recognising that the transition period between school and work has been identified as a crucial period where initial experiences are known to have a lasting influence on future learning activities, attitudes, and labour market decisions. It is also a period where significant and valuable time is spent grappling with career path decisions and eventually settling into a career. It is during this period that many individuals who are uncertain about their career, employment or study options, can benefit tremendously from timely career guidance based on sound research and other pertinent labour market information. These considerations also highlight the need for establishing a collaborative relationship between the NEB and the NCPC Unit.

4.4 Enhancing Second Chance Education

In the context of the Barbadian experience, the introduction of mass education facilitated universal access to primary and secondary education thereby facilitating high enrolment in post-secondary and tertiary education. While Barbados can boast of a very good education system, a well qualified and competent workforce, there are still areas of deficiency in the quality of education provision and outputs from the system. One area is the output of persons adequately certificated to move into the labour force or into tertiary education. An examination of the results of the regional examination CXC show that between 30% and 40% of students writing Caribbean Secondary Education Certificate examinations leave secondary school under certificated for the labour force and lacking in work related skills. Whereas many private and public institutions provide adult and continuing education opportunities, there remains a need to strengthen this provision and develop a comprehensive system of Continuing Education and Adult Education Programmes. Such programmes will not only provide second chance opportunities for those who have not satisfactorily completed their secondary education but will also cater to those seeking to:

- Transition or re-qualify for a change in career
- Enhance their literacy, numeracy and technological skills
- Upgrade their knowledge, skills and trade/occupational qualifications

The enhancement of the second chance education programme will also cater to learners with disabilities, vulnerable and at-risk youth, and young adults, especially unqualified or under qualified males and females. The aim of this HRD Strategy is to place Barbadians on learning paths to ensure a sustainable future of life-long and life-wide learning through improved education, knowledge, and skills.

The Barbados Vocational Board provides second chances for such persons by offering technical and vocational training through its Skills Training Programme, the lesser known In-Plant Programme which offers skills upgrading and retraining programmes, and the Evening Programme for which there is no upper age limit. These training programmes must be expanded to cater to a larger number of Barbados thereby expanding the capacity of these persons to contribute to national development and sustainable growth.

In addition to providing second chance education opportunities through formal and non-formal institutions and programmes, it is proposed that a framework be developed to effectively utilise the knowledge, skills, and expertise of retired professionals to provide second chance opportunities through mentorship programmes, training and life-skills coaching. Organisations such as BARP can be incorporated in such a framework.

The MEHR, in collaboration with ML will strengthen and expand access to a varied and relevant programme of adult and continuing education at various sites including the BVTB's Centres and schools. These programmes of learning and training will be covered in the new National Qualifications Framework. Private providers will also be encouraged to expand their offerings wherever feasible. All Barbadians will therefore have the opportunity to move seamlessly into and across various areas of learning to improve their qualifications and occupational opportunities.

4.5 Social Inclusion through Education and Training

The creation of equal opportunities for the youth, persons with disabilities, those living in poverty and other vulnerable groups has been identified as a pivotal component in the drive to build human resource capacity in Barbados. Evidently, the capacity of each person, whether living with a disability, living in poverty or marginalised in anyway, to derive maximum benefit from access to educational and training opportunities, is key to ensuring poverty reduction, reducing marginalisation and facilitating upward mobility.

The development of a demand-driven education and training system requires the formulation of appropriate mechanisms and strategies to provide equal access to relevant, appropriate, and recognised programmes, courses and qualifications for persons with disabilities and other vulnerable groups.

Currently, some persons with disabilities, for example the hearing impaired and blind, access education and training opportunities through correspondence courses offered by international agencies. However, one major challenge is the local recognition of these courses. There is a need to effectively utilise various distance, online and open-and-flexible learning modalities to provide greater education and training opportunities for persons with a range of disabilities to access various programmes either from their homes or designated accessible facilities.

Indeed, access to internationally, regionally and locally recognised courses and qualifications for persons with disabilities is vital in charting a path to access decent work, improve job opportunities and other economic and financial benefits. Moreover, enhancing access to second chance education and training opportunities for persons with disabilities, the poor and marginalised groups will create tangible benefits in human capital development.

4.5.1 Participation of Persons with Disabilities

The strategy recognises that there is a range of disabilities inclusive of physical, mental, and learning challenges. The MEHR already has specific programmes targeted to facilitate early identification of some of these disabilities along with providing appropriate interventions. However, challenges remain with respect to access and capacity for responses to cater for persons with various disabilities.

Targeted strategies will therefore be developed to cater to the HRD needs of persons with disabilities and other socially marginalised groups:

- Enhancing the diagnostic and early detection capabilities of education professionals.
- Strengthening the provision of psychological and developmental support services in the MEHR.
- Expansion of the provision of subventions to institutions providing special needs intervention for persons with disabilities such as the Caribbean Dyslexia Centre.
- Instituting a mechanism to provide greater access to and use of the OFL facilities at the SJPP to offer courses to persons with disabilities as well as other groups.
- Expanding access to post-secondary and tertiary education for persons with disabilities.
- Providing greater access to ICT and appropriate software and assistive devices for the visually and hearing impaired.
- Providing improved training for teachers to facilitate inclusionary practices in all educational institutions. For example, the Irving Wilson School is currently a model for the integration of technology in the teaching of persons with disabilities and the facilitation and transition of persons with disabilities into mainstream education.
- Re-examination of the curriculum offerings at the secondary and post secondary levels to better cater to the needs of the disable
- Providing enhanced career planning and counselling services to persons with disabilities.
- Instituting a programme regarding the employment of persons with disabilities.
- Strengthening legislation to facilitate persons with disabilities in the workforce.
- Providing access to student loans so that persons with disabilities can be afforded the opportunity to study abroad.
- Engage in greater collaboration with Ministries such as Social Care to extend access to educational and poverty reduction opportunities for persons with disabilities, the poor and other vulnerable groups.

4.5.2 Participation of Youth

Traditionally, the youth's pursuit of secondary and tertiary education was predicated by their desire to obtain 'white collar' jobs on entering the workforce. Hence, their subject choices reflected mainstream academic areas such as the sciences and business studies. However, in more recent times Barbadian youth have expressed a greater interest in entrepreneurial careers and consequently much of their focus have shifted from mainstream academia to a more technical and vocational based education and training. Additionally, a

significant number of young persons have indicated an interest in pursuing non-traditional occupations in the areas of culture, entertainment, and sports.

With this change in mindset, the youth have lamented that the educational system has remained somewhat rigid and stifling, and therefore unable to foster this spirit of entrepreneurship and skill based education. As a result some of the youth (males especially) felt marginalised by the educational system. Furthermore, Barbadian youth have also opined that the educational system was too theoretical (lacked a practical dimension) and did not adequately prepare them for their absorption into the labour force. To this end, the youth have cited the following as some measures to assist in the smooth transition from school to work.

- Expansion of curriculum to include technical subjects and non-traditional combinations between academic and technical/vocational subjects.
- Increased opportunities for work experience through job attachment, internship, mentorship, apprenticeship programmes facilitated by the training institution and businesses.
- More provision made for young persons interested in starting their own business to access technical and financial support and resources from government and other private lending institutions.

4.5.3 Participation of Persons Living in Poverty

In spite of best efforts within the formal school system some students will leave school without appropriate skills and qualification needed to enter the job market. In addition, periods of economic recession, personal crises and experiences may cause persons to disengage from the job market. Such persons must be reintegrated into the economic life of the society. Second chance educational opportunities must be made available where such persons can access them at any point.

4.6 Conclusion

The Barbados HRD Strategy recognises the importance of strategically addressing the demands of public and private sector employers in enhancing global competitiveness of the workforce. Further, it is built on the understanding the workforce development focuses on four key areas: lifelong and life-wide education and training, attraction and retention of human resources, portability of qualification, and effective use of labour market information to drive the demand of new opportunities. To be effective, education and training must be responsive to the specialised and immediate demands of employers. It must also be flexible and accessible to accommodate varying individual schedules, learning styles, and abilities. A demand-driven education system must also be accountable to employers and national quality assurance mechanisms.

Against this backdrop, the Government has developed specific actions that promote lifelong and life-wide learning, second chance education, and improved career planning services. Moreover, the strategy includes specific approaches for the social inclusions of persons with disabilities, youth, the poor and other vulnerable groups. Combined, these approaches support the fulfilment of personal and professional development by all citizens.



CHAPTER 5.0

Rationalising Knowledge Management Systems

The development of the global economy is occurring within what some have coined the Knowledge Age where modern technology enhances an individual's ability to transfer information freely, and to instantly access various types of knowledge. This has significant ramifications on Barbados' economy which must make the transition from traditional What?which treated knowledge as an external influence on production to an economy based on the manipulation of information, i.e. a knowledge-based economy. Barbados' ability to become truly internationally competitive and to promote sustainable long term economic growth and development hinges on its ability to use information as a productive asset and as a business product through research, development and innovation. The latter is being addressed in Chapter 6.0. However, in this chapter, the focus is on developing the necessary systems to collect data, transform it into information through analysis and effective distribution to foster the development of tactic knowledge (a critical component of human capital) which would by extension give rise to increased productivity, more effective strategic planning within organisations and innovation.

Knowledge distribution through formal and informal networks is essential to economic performance. Access to timely and reliable information is critical to decision making, policy formulation, and programme implementation in the public and private sectors. Further, when information is translated into knowledge it provides for improved effectiveness, efficiency, and accountability. Institutions therefore must develop strategies aimed at effectively capturing the available knowledge for internal use and public dissemination, which must be supported by the application of available technologies.

5.1 Understanding Knowledge Management

5.1.1 Defining Knowledge

Data, information, knowledge, and wisdom may be arranged in a sequence in which each successive step adds certain attributes over the previous one (Figure 5.1). Data is the most basic level; information adds context; knowledge adds how to use it; and wisdom adds the decision making capability to the process.

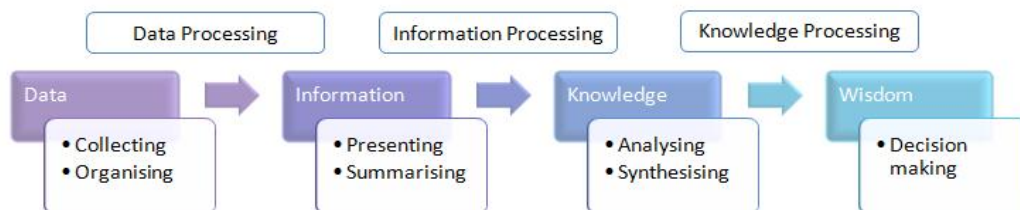


Figure 5.1: Data Information Knowledge and Wisdom Hierarchy.

- **Data** are numbers, words, or images that have yet to be organised or analysed to answer a specific question.
- **Information** - Produced through processing, manipulating, and organising data to answer questions, adding to the knowledge of the receiver. Information exists in many forms: words or numbers; in electronic or paper form; as text, image, audio, or video. It may be structured, for example, records, and documents, or unstructured, for example, carried in people's heads. Ideally, the information about the work of an organisation is stored and accessible from its intranet. Information about staff expertise is listed in a people directory.
- **Knowledge** – considers what is known by a person or persons and involves interpreting information received, adding relevance, and context to clarify the insights the information contains.
- **Wisdom** is knowledge that has been combined and enriched by peoples' insights and experience.

5.1.2 Types of Knowledge

Two kinds of knowledge are essential for government and business.

- *Tacit knowledge*, which includes human education, experience, and expertise
- *Explicit knowledge*, which includes documents and data

Technology can assist in the harvesting of both types of information; however, it is important that the knowledge is first put into forms that may be easily manipulated. For example, it is critical that physical copies of documents can be scanned and stored in an electronic document management system.

Knowledge flowing within an institution may be further divided into three categories: core, advanced, and innovative.¹⁷

- *Core knowledge* is a basic level of knowledge required by all members of a particular industry. It does not represent a competitive advantage, but is simply the knowledge needed to be able to function in that sector.
- *Advanced knowledge* gives an organisation a competitive edge. It is specific knowledge which differentiates an organisation from its competitors, either by knowing more than a competitor or by applying knowledge in different ways.
- *Innovative knowledge* is that which enables a company to be a market leader. It allows an organisation to change the way a sector works and represents a significant differentiating factor from other organisations.

5.1.3 Knowledge Management

Knowledge management is a strategic initiative essential for any government agency's mission success. Decision-makers need timely information and knowledge on which to base their policies and programming. Similarly, with the pervasiveness of online technologies

¹⁷ Knox Haggie, K. & Kingston, J. (n.d.) Choosing Your Knowledge Management Strategy

there is a growing demand for greater access to information and government services. A sound knowledge management strategy can help achieve this objective.

A comprehensive, high quality knowledge management system is essential for effective decision-making and performance management of a modern national human resource development strategy. Currently, a series of management information systems exists within Government with differing levels of synergy or interoperability. These systems are supplied with primary data from varying sources including the MEHR, the Barbados Statistical Service, and the Ministry of Labour. Those systems related to the human resource development function are described in the following sections.

5.1.4 Information Management versus Knowledge Management

There is a subtle yet real distinction between information and knowledge management. Currently most work within government focussed on improving information management (the processes by which information is created, captured and used). Information management deals with the structuring, organising, classifying, and control of information throughout its lifecycle. It involves the business processes and systems used within an organisation to create and apply information.

Knowledge Management is a process that, continuously and systematically, transfers knowledge from individuals and teams, who generate them, to the brain of the organisation for the benefit of the entire organisation. It is the systematic, explicit, and deliberate building, renewal, and application of knowledge to maximise an enterprise's knowledge-related effectiveness and returns from its knowledge assets¹⁸. Knowledge Management in an organisation involves the following:

- Identification of the knowledge assets and knowledge gaps within an organisation
- Analysis of the current information systems
- Development of an interoperability framework
- Upgrade of technological, infrastructural, technical, and administrative systems? based on the new framework
- Development of processes to capture and preserve knowledge
- Using and sharing of the knowledge.
- Continual monitoring of the system

Knowledge management therefore goes beyond the technological solution by including the processes involved in creation, capture, and sharing of knowledge within an organisation.

5.1.5 Knowledge Management Strategies

Finding, using, creating, managing, and sharing knowledge are recommended behaviours expected by staff within the organisation to be able to deliver knowledge management effectively. Knowledge management strategies can focus on ensuring that staff can easily find and use existing and relevant knowledge, and that processes are in place to be able to share knowledge. Knowledge must be available to those who need it, when they need it in doing their work.

¹⁸ http://www.tatasteel.com/technologyupdate/km/km_basics.htm

Effective knowledge management depends on the appropriate linkages of these three activities within the context of the particular organisation.

Connecting people to information and knowledge - People are the most critical factor in knowledge management. People create knowledge, share knowledge, learn, and use knowledge to complete the tasks of the organisation. Knowledge management systems should be an enabler to the people, missions, and processes within the Agency, rather than an initiative that levies more requirements and work upon the projects.

Connecting people to people - Communicating with peers ensures we learn about their experiences and get their useful knowledge first-hand. Working collaboratively to share learning and experiences will save a lot of time and effort, and can help us avoid making mistakes that others might have made. *Communities of practice* (CoPs) allow people in local government to find solutions by networking with like-minded people and share their experiences, questions, solutions, and ideas.

Organisational improvement - The process for managing knowledge resources is really a combination of the way in which people work and the lifecycle of information. Summarising lessons learned and experiences gained, then sharing them with others can help build and retain an organisation's knowledge. Developing processes to capture and share knowledge, which can then turn learning into practice, helps improve performance.

5.2 Knowledge Management in Government

The increasing use of information across society has transformed the way that people conduct business, create, and use information, and interact with each other. As the largest employer and information generator, Government must be able to manage the flow of information within the various ministries, departments, and agencies within the public service as well as the interface with the private sectors and its citizens. Good knowledge and information management should support evidence-based policy development – both in researching new policy and evaluating the outcomes from existing policies. Using appropriate knowledge in decision-making leads a more accurate understanding of the current realities, better policy, and better services. Strong overall leadership, ownership, and advocacy are also critical for success.

Effective knowledge management in government should encompass the following actions:

- Creation of an enabling environment in which there is a culture of knowledge management and knowledge sharing that is supported by appropriate governance, business processes, and appropriate technologies.
- Improvement in the way departments manage information and knowledge as valuable assets, ensuring it is protected, made accessible where appropriate, and used effectively to inform decision making.
- Improvement in the value of the information and knowledge held.
- Use common standards, best practices, secure processes, and common frameworks to ensure that all facets of government have consistent approaches to knowledge management.
- Build capability through creation of a strong infrastructure to support and lead information management professionals across government.

- Development of a professionalism programme to support knowledge and information management as a key corporate function of government.

A strategic approach to technology is also needed. Figure 5.2 illustrates a model for coordinating the various types of information, databases, and tools into a comprehensive knowledge management system.

5.3 Knowledge Audit

Understanding what information we hold, its technical characteristics, and where we store it underpins effective information management.

Labour market information is collected by a number of organisations:

- Barbados Statistical Service - Population and Housing Census, Continuous Household Sample Survey, Survey of Employees, Earnings and Hours Survey of Labour Cost and Wages Retail Price Index
- National Insurance Administrative Records

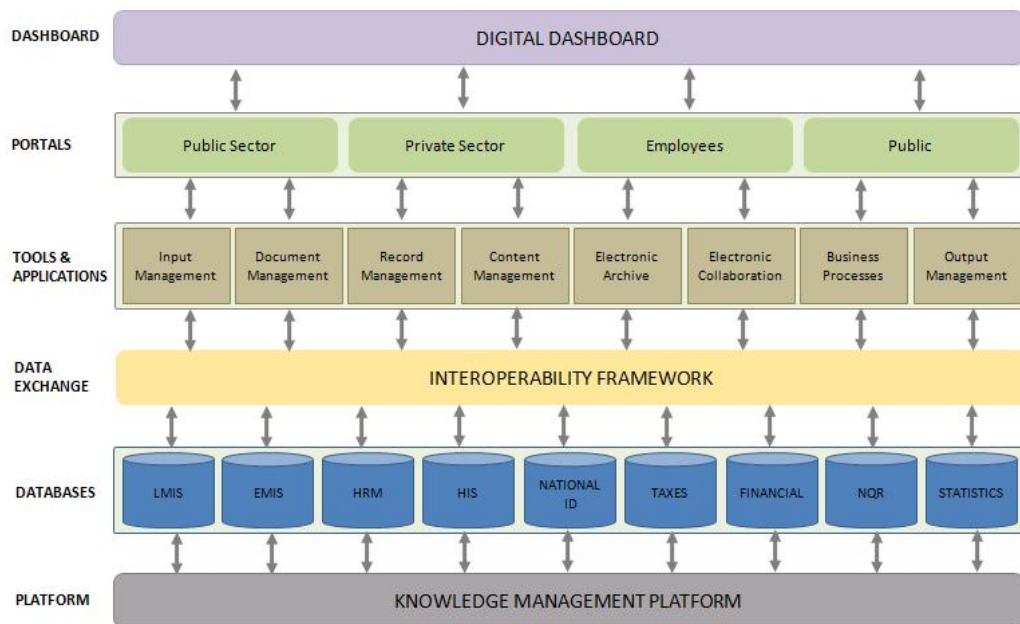


Figure 5.2: A conceptual model for a comprehensive knowledge management system for human resource development

- Ministry of Labour - National Employment Bureau Records, Factory Inspectorate Records and Labour Complaints
- MEHR - Educational Statistics
- Trade Unions - Collective Agreements and Compensation
- Barbados Employers Confederation - Wage Surveys

There is clearly a need for one system linking all of the key data sources to ensure more effective and efficient collection, collation, analysis, and dissemination of information.

5.4 The Education Management Information System

The successful management of education systems today, requires effective use of ICT tools to enhance policymaking, teaching, and learning research, monitoring, and evaluations. To this end, countries around the world have invested significant resources in collecting, processing, and managing more and better data through Education Management Information Systems (EMIS). An EMIS is an institutional data management service that produces, and manages educational data and information. It is normally established within a national Ministry or department responsible for education. The functions of an EMIS are the collection, processing, use, and dissemination of educational data to educational stakeholders on a timely, routine, reliable, and predictable basis via user friendly interfaces.

Key human resource development data requirements are listed in Table 5.1.

The timeliness and quality of supply data (especially on tertiary Institutions) is generally poor. There is no central organisation to collate data on tertiary institutions. Each institution has its own data collection and presentation system. This problem is currently being addressed by the Higher Education Development Unit which will introduce a uniformed and computerised system for the collection, collation analysis, and dissemination of information from tertiary institutions. The MEHR is also in the process of developing a Project Monitoring Information System (PMIS) to support the submission of data from UWI, BCC, SJPP, CXC, and ETTC.

Table 5.1: Human Resource Development Data Requirements

Indicator	Source	Frequency	Disaggregated
Polytechnic	SJPP	Annual	By enrolments by course and sex, graduates
University enrolments	UWI (Cave Hill)	Annual	Enrolments by course and sex, degrees awarded
College enrolments	BCC	Annual	Applications, enrolments by course and sex
Voc enrolments	BVTB	Annual	Enrolments
Tracer studies	BVTB	3 years	Graduates
School leaver unemployment	Tracer study (MEHR)	Annual	By age
Skill shortages ¹⁹	Work permits issued (Immigration)	Annual	Total, occupation , sex and main source
Job vacancies	National Employment Bureau	Annual	Notified and filled
Educational needs	Sector surveys	2 years	By skill for three industrial sectors

5.4.1 Coordination of Education Management Information

The Planning and Research Unit of the MEHR has overall responsibility for the collection, collation, analysis, and dissemination of all educational statistics on behalf of the Ministry. The Planning and Research Unit currently manages an EMIS which comprises information on primary and secondary schools along with data from ETTC, BCC, SJPP, and UWI. The PRU

¹⁹ Since employers have to advertise vacancies and prove that they have failed to find a Barbadian for the job, a work permit can be regarded as indicative of a skill shortage.

expects to work collaboratively with the HRD Division in compiling relevant educational and HR information for dissemination to educational institutions, HRD stakeholders, and employers.

It is recommended that HRD division of the Ministry of Education should focus on the collation and analysis of the following data:

1. Supply (public sector):
 - Flow from secondary schools to tertiary institutions
 - Enrolments (by course) of all public funded post secondary educational institutions
 - Applicants and places per course
 - Pass rates per course
 - Staff-student ratios
 - Courses and enrolments of registered educational institutions (compiled by Accreditation Council)
2. Demand:
 - Skills and educational needs (by key sectors)
 - Tracer studies of key courses and those related to sectoral studies.
 - Cost per student relative to GDP per capita

5.5 The Labour Market Information System

A LMIS is defined as a set of institutional arrangements, procedures, and mechanisms that are designed to coordinate data collection and process it for policy purposes. It is important to note that 'system' does not only include data gathering and processing but also analysis and identification of policy issues or action to rectify any serious emerging imbalances. The system integrates the following: data collection, data processing, analysis, and dissemination. Moreover the system should link the 'producers' of data with the 'users' including policymakers.

The Manpower Research and Statistics Unit (MRSU) is the research agency for the Ministry of Labour with 'primary responsibility for the management and maintenance of the Barbados Labour market Information System. The MRSU is the coordinating agency between Labour Market Information (LMI) producers and users and the HRD Division of the MEHR.

5.5.1 Key Labour Market Data

Although the ILO has published as a guide a list on key data for an LMIS, there is no blueprint on the types of data required. Very much depends on (a) the priorities of policymakers, (b) the areas that need monitoring and the local resources to collect, analyse and disseminate. It is therefore important to determine the major users and their needs. Some of the key data required for a Labour market Information System are listed in Table 5.2. The data collected are used in the design, monitoring, and evaluation of policy.

5.5.2 Continuous Household Labour Force Sample Survey

The primary source of Labour Market Information is the Household Labour Force Survey which is regularly collected by the Barbados Statistical Service.

Ministry of Labour (MRSU)

The MRSU publishes an annual two page *Digest of Statistics* and a *Labour Market Bulletin*.

1. The Digest covers population, employment by industry and by occupation, total enrolments for Primary and secondary education and the Tertiary Institutions, including the BVTB. In addition, there are data on GDP, tourism, seaport traffic, sugar, food production, livestock imports and exports, finance, energy consumption.
2. Labour Market Bulletin Quarterly. The MRSU compiles statistics on employment ²⁰ from the BSS and adds the following: Retail Price Index; Registrations and Overseas placements at the Employment Bureau; Data on industrial relations, occupational safety, national insurance (claims), and benefit payments.

Table 5.2: Data required for a Labour Market Information System

Indicator	Source	Frequency	Disaggregated
Population	CHLFS	6 months	Total, growth (birth rate, death rate), age, sex, areas
Population	Census	10 years	Total, growth (birth rate, death rate), age, sex, areas
Labour force	CHLFS	6 months	Total, participation rate by sex, age, industries occupation
Employment	CHLFS	6 months	Total, education, sex
Under-employment	CHLFS		Total, education, sex
Unemployment	CHLFS	annual	Total, age, education
Real Wages	CHLFS	annual	Average weekly earnings by occupational group
Household income	CHLFS		Size, head (by sex), income
Occupational safety	ML	annual	Accidents, major cause of injury
Industrial disputes	ML		Work stoppages
Social Protection (pension fund)	ML	annual	Population trends (for the over 60s)
National Insurance claims	NIS	annual	Claims received and allowed by major category (sickness, unemployment, pensions, etc)
Minimum wages	ML	annual	
Unions	ML	annual	Total membership
Employers and employees	NIS	annual	Employment status, number of employers by sector and size.
Productivity	Productivity Council	annual	Productivity by sector
Growth of businesses	Department of Corporate Affairs	annual	Number of enterprises by size (no. of employees by sector)

²⁰ Adult population, Labour force participation rates, employment (by sector and occupation) Unemployment and data from National Employment Bureau

Ministry of Education and Human Resource Development

The Planning Unit is responsible for Education Statistics. The MEHR publishes two documents:

1. *Digest of Education Statistics* - It covers the essential data on education expenditure, enrolments, teachers, exam results, scholarships, and enrolments on the tertiary institutions, plus 25 indicators on *inter alia* staff student ratios, distribution, net enrolment rates, school hours.
2. *Annual Miniature Digest of Statistics* - This document provides summary information (total enrolments) on students by pre-primary, primary and secondary. It includes a summary of higher education awards, CXC results, and total enrolments for the tertiary institutions.

5.5.3 Information Management Across Other Government Departments

Ministry of Tourism

The Ministry collects data on arrivals (by country), occupancy rates, cruise passengers etc. No data on hotel employees are collected.

Barbados National Productivity Council

The Barbados National Productivity Council compiles data on productivity by sector, which provides a useful guide on productivity levels.

National Insurance Office

The National Insurance Office is responsible for social protection and compiles data on total active contributions (by employer and employee). All registered companies are required to pay contributions to the national insurance scheme. The NIS statistics division publishes data on the number of enterprises by sector and size. The data could provide a basis for sectoral skill surveys, which require a sample of a cross section of companies (classified by employment size).

Barbados Statistical Services

The Barbados Statistical Services publishes a quarterly and an annual *Household Labour Force Survey* on population, labour force, employment, unemployment, and underemployment. It has recently revised its bulletins in accordance with recommendations of Caribbean Labour Market Information System project (CLIMIS). Under the 'Enhanced Labour Force Survey', BSS intends to include 65 fields in its proposed tabulation plan:

- Adult population (4)
- Labour Force (10)
- Employed (23)
- Underemployed (7)
- Unemployed (10)
- Inactive adult population (5)
- Households (8)

In October 2009, BSS embarked on a modernisation programme, which will strengthen its capacity²¹ to collect and disseminate statistical data. The findings of the 2010 National Census will provide up to date information on many aspects of the economy and social services.

Training Administration Division

The Training Administration Division maintains records on staff educational programmes by course and enrolment.

Immigration Office

The Immigration Office collects data from work permits by skills (according to the NCO, 2 digit level), sex and country of origin.

National Employment Bureau

The National Employment Bureau compiles data on vacancies notified by employers and vacancies filled by the NEB. The skills listed are in alphabetical order and do not follow BARSOC, except for broad categories.

International Business Sector

Despite the importance of the sector there is currently no data on the size of the sector in terms of employment by company. This situation will be rectified by the end of 2009 through the launch of a survey to such capture as a prerequisite to an Action Plan for the International Business Sector 2009-2011²².

Informal sector

It appears that Barbados has a growing informal sector, which plays a role in the creation of job opportunities. Unfortunately, there are no data on the informal sector, which is too important, as a potential vehicle for job creation, to be ignored.

5.5.4 Labour Market Analysis

The labour market analyst has a critical role, namely to (a) advise data suppliers on the quality of their statistics (b) interpret trends, so as to provide an early warning system of emerging problems (and thus influence policy formulation) (c) provide data relevant to proposed policies and (d) evaluate implemented policies with relevant data.

In the area of policy analysis there is room for improvement across the public sector. Too often data are collected but not analysed.

Departments should ensure that in addition to data entry personnel there are also analysts; otherwise the build up of raw data will not be converted into useful information (e.g. emerging problems and areas to be addressed by policy).

²¹ Includes upgrading of staff skills, equipment and intranet service to government departments and greater control (through a new legal framework) over the quality of public statistics (i.e. those produced by government departments and agencies).

²² Prepared by International Business Division, Ministry of International Business and International Transport

There is a shortage of analysts to analyse the LMI. To overcome this problem it is recommended that the MRSU recruit additional research staff and in the meantime obtain assistance from UWI, which has indicated an interest in providing (technical and research) assistance.

Every effort should be made to (a) make the published documents reader-friendly (with bar charts etc) and (b) attach a brief commentary on the key aspects of the analysis i.e. translation of the raw statistical data into useful information and knowledge for assessment and decision making²³.

The current system of dissemination requires improvement. Data should be disseminated to the following:

- to policy-decision makers
- to related departments/ministries (via publications and the Government intranet)
- to politicians
- to the general public (via publications and the internet)

More specifically data collection and presentation should be user-orientated (Table 5.3).

Table 5.3: Main Data users of Labour Market Information

Main User	Needs
Ministry of Labour	• Labour force by employment status • Number employed by sector • Unemployment by age, gender, education • Graduates from training institutions • Sectors experiencing growth or decline • Unit labour costs • Companies in informal sector • Productivity rates • Formal sector • Numbers retrenched • Wage rates/rises • Graduates of TVET programmes
Ministry of Education and Human Resource Development	• Educational attainment of the labour force (employed and unemployed). • Tracer studies • Assessments of skill needs • Tertiary educational institutions by course and enrolment • Earnings by educational level
Students Trainees Job seekers	• Educational programmes, courses and fees • Detailed brochures on educational courses (and types of jobs expected) • Earnings by educational level
Employers	• Wage • Conditions of employment • Productivity rates and earnings by sector
Workers' unions	• Access to education and training • Wage rates, hours of work

²³ For example, why is the LF participation rate falling and why is it higher among women

5.5.5 Coordination of LMIS

The MRSU is mandated to establish links between LMI producers and users, manage a LMIS and disseminate LMI (provide and deliver updated LMI to meet the demands of employees, policymakers, trainers students and job seekers).

It is recommended that in accordance with its mandate, the MRSU should be the focal unit for the collation, analysis, and dissemination of data on the labour market, since Ministry of Labour has primary responsibility for employment and labour market policies²⁴. The MRSU should:

1. establish and main contact with other relevant agencies necessary to obtain the information required;
2. prepare descriptions and analysis of developments in the Barbadian labour market; and
3. publish an annual digest containing a more thorough coverage of the labour market and distribute information to users.

5.6 National Qualification Register

The National Qualifications Register (NQR) is a centralised electronic database that provides information to employers, trainers, and trainees on educational opportunities and assessment and certification services. The Register facilitates access to and retrieval of information on learning resources, achievement in assessment of vocational competencies, and the recognition of qualifications within the National Qualifications Framework. This register is usually implemented as a computerised relational database, and is accessed via a suite of specialised software tools. It is updated regularly to reflect the most recent graduation status for each institution, and enables almost instantaneous verification feedback for resident qualifications.²⁵

5.7 Conclusion

Government stands to benefit greatly from increasing the effectiveness of management and capitalisation of information, and turning time spent searching for information into time spent applying it. The approach to knowledge management within the Strategy is consistent with Government efforts to rationalise its national information systems while leveraging the power of technology in effective government and governance²⁶. In addition, Government is in the process of improving online access to public services. This process will provide easier access to pertinent and timely information by the business community thereby allowing for greater efficiency and improved competitiveness. The comprehensive knowledge management system will help to facilitate Barbados' move towards a competitive knowledge-based economy capable of creating sustainable growth, increased global competitiveness, provision of enhanced job opportunities, and greater social unity.

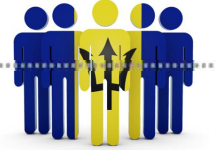
²⁴ Creating a climate of harmonious relations, healthy working conditions, fostering growth of businesses of all sizes, minimising impact of aids in workplace, eliminating child labour, training those with disabilities.

²⁵ Adapted from information on the National Qualifications Register available at: <http://www.nqrjamaica.org> and <http://www.mie.co.za/content/ixnqr.htm>

²⁶ National Information and Communication Technologies Strategic Plan of Barbados (2009-2015): An Efficient Networked Island

CHAPTER 6.0

Enhancing Research, Innovation and Entrepreneurship



The Government of Barbados has recognised the importance of investments in research, innovation, and entrepreneurship as providing a competitive advantage in an increasingly global economy. This importance is underlined in Goal 2 of the *National Information and Communication Technologies Strategic Plan of Barbados (2009-2015)*. This goal envisions support for innovators, for development and research of technology infrastructure, and the development of technical and entrepreneurial skills.

For the full potential of research, innovation, and entrepreneurship to be realised, it is important to also build the human capacity, skills, and thought processes that support the culture. These latter elements are addressed within the HRD Strategy. This situation has been compounded by a growing debt problem which in turn, has been exacerbated by the global financial crisis. Innovation and entrepreneurial activities flourish given the right mix of education and training, research and development, applied science and technology and financing. These factors operate well within an enabling environment characterised by: a legislative, fiscal, and policy framework; the provision of financial and technical assistance; and a supporting monitoring and evaluation system (Figure 6.1).

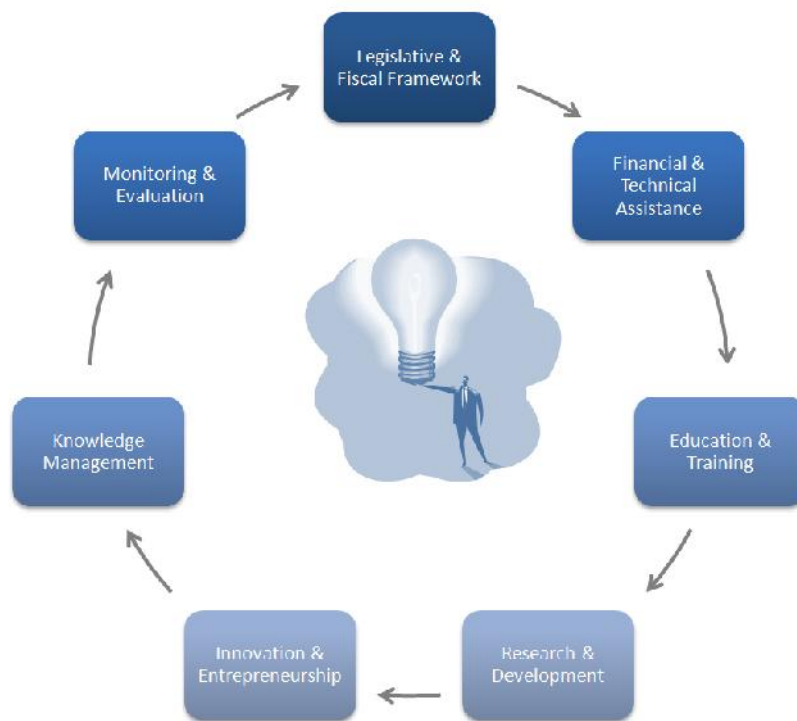


Figure 6.1: Model for promotion of research, innovation, and entrepreneurship.

6.1 Science, Innovation and Entrepreneurship

Innovation and entrepreneurship are grounded in the application of scientific research principles to solving social, economic and developmental challenges. Across the developed

world and in many developing countries, science and technology has been a major catalyst for the creation of innovative products and services and the advancement of societal development. Generally, developed countries have well developed systems for science, technology, and innovation to flourish. While many developing countries have the desire to use science and technology as vehicles for development, they often lack the capacity and resources to invest in research and development.

Through the HRD Strategy Government envisages the enhancement of science, technology, and innovation policies to facilitate the fostering of a culture of research and innovation from as early as primary and secondary school through to tertiary level education. To achieve this, emphasis will be placed on reinvigorating science education at all levels of the education system, as well as building human capacity in science, technology, research, and innovation through a system of education, lifelong learning, professional development and training which will involve the enhancement of the functions of several associated agencies.

Government has already committed BDS 3 million to the University of the West Indies over a three year period to support the development of a research programme at the postgraduate level. However, promotion of a scientific research culture requires inputs at lower educational levels designed to build the prerequisites for research and innovation, especially in the applied sciences.

The creation of science and technology parks, the harnessing and exchange of information and enhancement of knowledge management systems are essential parts of the process. It is also necessary to translate research findings into viable solutions to the unique challenges limiting our development. This will require the development of creative and innovative ideas, products, and services of a globally competitive standard. To this end, it is also important that the national innovation awards scheme is enhanced to assist innovators in seeing their products reach world class status.

The Strategy also recognises that Barbados is susceptible to external shocks due to natural or man-made disasters and intricately linked to the wellbeing of other global economies. This vulnerability impacts on critical growth sectors of the economy such as tourism, and may be compounded by the country's limited natural resources, a heavy dependence on imports, volatility of oil prices, limited manufacturing capacity, and a significant trade deficit. Therefore, the Government embraces the movement towards a green economy through strengthening the physical infrastructure while preserving the environment. As such, the Strategy explores clean and renewable energy sources, encourage research and development of environmentally sustainable solutions, and support the creation of green jobs through specialised education and training in integrated waste management, coastal preservation, water supply management, environmental economics, and related areas.

6.2 Research, Innovation and Entrepreneurship in the Agriculture Sector

Agriculture is one of the most significant drivers of economic activity in developing countries, and from a food security and tax revenue perspective, is often controlled by the state in most of these countries. As a country develops and the basic needs of citizens are met, the society begins to focus on other areas of economic activity such as recreation and the arts which then take on a more prominent role in society and become areas of significant economic activity. As a result, the size of the agriculture sector, as a proportion of the economy shrinks, relative to the growth of other areas in the economy. Concurrently, the population acquires more wealth and disposable income. Consumers in such

circumstances become more discerning, driving demand and this becomes a catalyst for the market to switch from a producer-driven market to a consumer-driven market. As a result:

- The sector is no longer a high priority for intervention by the government and becomes a private-sector led activity.
- The grower must now first have market access before planting a crop.
- The sector must move from a subsistent, labour-intensive activity to a commercial capital-intensive activity which provides the bulk of the country's food supply.
- Backyard gardening becomes a hobby and recreational activity that evolves into an industry separate from commercial crop production which also supplements the country's food supply.

Developed countries have successfully used modern technologies and techniques in agriculture to maximise efficiencies, reduce costs, and deliver competitively priced agriculture products. Yet, agriculture in developing countries continues to be plagued by several challenges, at the core of which are human resource factors that may be addressed through appropriate strategic interventions.

For a high level of development to occur in the agricultural sector there must be close cooperation and interaction between scientists, extension advisers, growers, and agriculture-related industries. These four elements are integral for the survival of the sector and must join to promote advanced technologies in all agricultural branches.

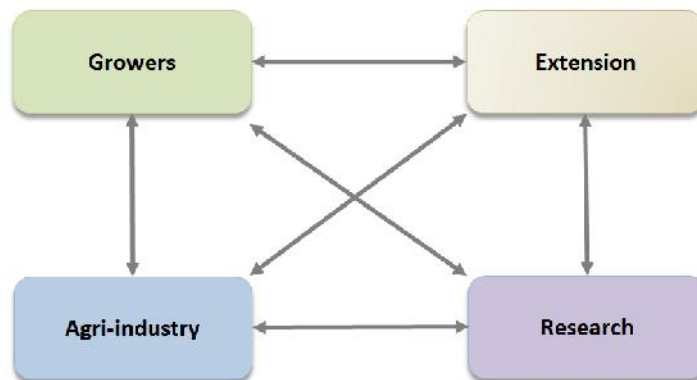


Figure 6.2: Interaction of key elements within the agriculture sector.

Currently, the structure of a commercial farming enterprise includes the farmer as the sole knowledge worker on the farm supported by mainly unskilled labour. The Government employs the researchers - agronomists, plant pathologists and entomologists to service the needs of the farmers. This arrangement is inadequate for four reasons:

1. With over 500 full-time growers, there are not sufficient industry professionals to service the agribusiness industry.
2. There are very few industry professionals supporting the grower.
3. There is a symbiotic relationship between university and industry.

4. Researchers have to play a dual role as an industry professional and an academic professional which limits their ability to support either grouping adequately.

In the short-term, Barbados must develop industry professionals in the agricultural sector similar to what pertains in other industries. For example, in the construction sector masons, carpenters, electricians, quantity surveyors and other professionals support the contractor. Similarly, the agriculture sector needs to incorporate professionals with the necessary academic, technical, and practical competencies to support the grower. These industry professionals include:

- Integrated Pest Management Specialists
- Certified Crop Advisers
- Irrigation Technicians
- Nursery Technicians
- Post-harvest Specialists
- Greenhouse Technicians

At present, the University of Florida's Institute of Food and Agricultural Sciences (IFAS) has an international program where it aids in developing the capacity of agricultural sectors in other countries. The Ministry of Agriculture and the Barbados Society for Technologists in Agriculture already have established relationships with IFAS and these relationships can be quickly enhanced such that they provide training to develop industry professionals who would be able to support the industry in the very short-term.

The agricultural industry must also be able to work with investors, financial accountants, attorneys-at-law, economists, human resource managers, international business specialists, marketers, and other professionals who understand the workings of commercial agricultural activities and are thus able to offer the kind of advice necessary for economic growth. However, these professionals currently do little work with growers in this regard, a situation that must change in order to improve economic output of commercial agriculture output. Furthermore, new growers have to be self-motivated entrepreneurs with strong leadership and marketing skills and whose focus will be on allocating capital and resources and not exclusively on the day to day activities of the farming enterprise.

The challenge therefore becomes one of attracting and maintaining new talent in the sector. Studies indicate that in this second generation of post-independence Barbadians there is less opposition to working within the agriculture sector. Indeed, agriculture provides opportunities for young researchers, professionals, and entrepreneurs to apply scientific principles, modern techniques, and innovative technologies to the development of commercially viable solutions to complex problems.

Further, with approximately 13% of the population suffering from diabetes alone, the emphasis on healthy diets and increasing the consumption of fresh fruits and vegetables has also kept the spotlight on agriculture. Additionally, agriculture is one of the few sectors which show positive economic activity during a recession. Combined, this environment provides the ideal conditions for the re-development and transition of the agricultural sector.

Technically, the sector has fallen because of inappropriate or inadequate implementation of technologies. Researchers and industry professionals must initially focus on technology

adaptation to swiftly improve the competitiveness of the sector. Technology innovation is generally undertaken by researchers and thus results are produced at a much slower pace. Nonetheless, technological innovation remains critical to a sector's competitiveness. For example, extension officers will now be able to offer more specialised attention to growers since general information will be easily accessible through print and video formats online. A grower's ability will now be determined by how he/she utilises this information and not because of lack of access to information.

6.3 Innovation, Entrepreneurship and Small Business Development

The Government has recognised the link between creativity, innovation, and entrepreneurship and improvement of international competitiveness, creation of wealth, economic growth and the improvement of the quality of life for all. Specifically, the Government set aside USD 2.5 million in 2003 for the *Innovation Fund*, managed by the Enterprise Growth Fund Limited and provides seed capital in the range of USD 12,500 to USD 125,000 to assist entrepreneurs with the implementation of commercially viable project ideas. The fund is also used to coordinate the National Innovation Competition which encourages management and other personnel to think outside the box in enhancing the competitiveness of their businesses.

Despite these initiatives, there remains a need for specific action designed at embedding an innovative mindset in the country. Specifically, the MEHR will enhance the incorporation of critical and creative thinking in curricula at levels within the educational system. Further, the HRD Strategy supports the delivery of workshops on creativity, innovation, intellectual property, and entrepreneurship for individuals and businesses. Businesses should also have an optimal mix of technology, retooling, process reengineering, investments, and organisational changes as needed to support innovation and competitiveness.

Innovation is also the driving force for entrepreneurship. This concept is often most evident during times of economic necessity whereby the Government, in collaboration with the private sector, must develop sustainable strategies aimed to stimulate the economy and reduce unemployment. For example, it is anticipated that there will be an increase in the number of persons seeking self-employment and entrepreneurial endeavours as national economies emerge from the current economic crisis. To succeed these new entrepreneurs must have the technical and customer service skills as well as business and entrepreneurial skills to offer and sustain the provision of the product or service. New entrepreneurs with the appropriate business education and training, have their personality, values, and character to use as a launch pad for potential success.

The *Youth Entrepreneurship Scheme (YES)*, established in 1993, also provides support in the development of potential entrepreneurs. The scheme, which caters to people between the ages of 18 and 35, provides a wide range of educational courses, in areas such as personal development, English for business, accounting, financial planning, customer service and customer management etc. One area that needs more analytical activity is the practical work attachments - business processes, financial processes, scenario planning.

The BSBA has a youth focused pilot project entitled *Enterprise in Action*. The project encourages students at both the primary and secondary level, to examine the possibility of entrepreneurship as a viable option in a career path. There is a selection of local schools involved in the project including one primary school. Students are trained by BSBA

consultants in business skills and they, in turn, demonstrate those skills by providing a foundation for a business project that involves planning and implementation.

Some trainees of the Barbados Vocational Training Board are able to obtain small loans from the Youth Business Trust (BYBT) to purchase basic tools/equipment. Having repaid and obtained a good credit rating, they are in a position to get additional loans to continue to equip their micro businesses.

UWI is also encouraging its students to consider self employment by means of the Uwi's Project SEED – The Student Entrepreneurship Empowerment Development project which is open to all Cave Hill students.

A direct product of the cultivation of entrepreneurial processes is the establishment of micro, small, and medium-sized businesses. SMEs are significant contributors to the Barbadian economy. The vast majority of local enterprises are micro and small scale. Of the registered employers in 2000, 88% employed less than 10 employees, and 74% of that figure employed less than 5. There is a strong interest in supporting start-ups and expansion of SMEs, since the SMEs are seen not only as a partial solution to the unemployment problem but as an engine of private enterprise.

The Barbados Small Business Association (BSBA) today has approximately 800 members; over 50% of which are financial. Eighty percent of the member organisations are micro enterprises (having less than 5 employees), 18% are considered small business (5-25 employees) and 2% are medium size (25 -49 employees) and large (50+ employees). Up until 2007, the BSBA received Government financial support for its skills educational programmes. Today, education and training are still taking place, although in a more limited capacity, with support from sources such as the Education Training Fund (TVET Council) and the National Productivity Council.

One of the major issues in this sector is access to small business operational funding and start-up venture capital. Whereas *Fund Access* and the *Barbados Youth Business Trust* provide loans, some of the stipulated security conditionalities make it difficult for new entrepreneurs and SMEs to secure loans. Small businesses and young people do not always have the financial backing of guarantors, parents, or elders nor do they have securities which they can offer against loans. The risk management element attached to small businesses and young entrepreneurs needs to be re-examined from a wider scope perspective. For example, small businesses should have opportunities to use tools such as their accounts receivables as a means to use a line of credit.

The HRD Strategy seeks to complement the strategies for entrepreneurial development, innovation and the SME sector articulated in the Medium Term Development Strategy through the following initiatives:

- Review of the national school curriculum to enhance the integration of the fundamentals of entrepreneurship.
- Expansion of the YES Programme in schools to support the development of a culture of entrepreneurship.
- Development of a framework to promote mentorship programmes for small businesses and entrepreneurs.

- Partnering with entrepreneurs, mentors and the private sector to revive the Junior Achievement Programme.
- Development of a framework to assist small businesses in pursuing capacity building and institutional strengthening with system of incentives for training and human resource development.
- Review of the legislative framework, particularly the Small Business Act, to embrace micro enterprises and to address many of the challenges faced by SMEs in achieving approved small business status.
- Enhance policies and programmes which target in the SME sector to provide incentives to drive more extensive use of research, development, and innovation.
- Enhancement of the national innovation competition to ensure that more innovative products and services reach the realisation stage and are ready for export.
- Support a programme of research into factors that influence the failure of SMEs, leading to the development of a framework to assist such enterprises during the early phases of development while promoting sustainable growth.
- Promote the development of strategies to highlight successful SMEs.
- Establishment of partnerships with education and training providers, such as BIMAP's Small Business and Entrepreneurial Division, to facilitate the development of an appropriate curriculum for the teaching of entrepreneurship at the post-secondary and tertiary levels.
- Develop a programme for the development, implementation, and marketing of innovative products and services.
- Establishment of a framework to ensure greater success rates in individuals and SMEs recording patents, copyrights, intellectual property rights, cultural and process innovation.

6.4 Invigorating the Cultural Sector

One exciting potential area of innovative and entrepreneurial growth involves tapping into the capacities of youth in the cultural arena. Indeed, Globally, the cultural and creative industries have grown exceptionally over the past two decades. Indeed, cultural industries have come to be included in a distinct sector where the creation, production, and marketing of goods and services are combined. Cultural industries include media organizations, film production, audiovisual sphere, the print output, multimedia sector, architecture, performing arts, plastic arts, and cultural tourism²⁷. These industries are innovation intensive and increasingly contributing to the economic development as a tradable or export-oriented commodity.

For decades, Barbadians have demonstrated a pride and excellence in the National Independence Festival of Creative Arts (NIFCA), Crop Over, community-level cultural festivals, and literary competitions. In recent years Barbados has benefitted from increased exposure of its internationally recognised recording artists, entertainers, and athletes, while

²⁷ UNESCO (2000), "International Flows of Selected Cultural Good 1980-98", United Nations Educational, Scientific and Cultural Organization, Paris, France.

several community-based groups have been able to export Barbados' cultural brand to a regional and global market. This has in part contributed to tourism receipts and development of a fledgling recording, fashion, and entertainment industry. Through the HRD Strategy, the Government will continue to encourage citizens to explore cultural endeavours as viable career paths, through the enhancement of relevant curricula, strengthening of legislation on copyright and intellectual property rights, and the development of an enabling environment in which cultural enterprises can thrive.

6.4 ICT as an Enabler for Innovation and Entrepreneurship

Barbados has an extensive technological infrastructure, including high level of internet penetration and mobile and land telephone. Further, the liberalisation of the telecommunications market early part of this century has reduced connectivity cost and has help support government's policy of attracting international business companies. There is also extensive use and training in Information Communication Technology (ICT) supported by government's educational sector enhancement programme as well as community technology programme. These factors need to be effectively leveraged in development of ICT related research oriented activities. In this regard, government will continue to develop linkages with the Caribbean Knowledge Learning Network which supports the development of the national Research and educational networks. ICT can also serve as a catalyst for the development of innovative businesses, products, and services while providing a competitive advantage for companies in many sectors.

6.5 Conclusion

As part of its efforts to deliver sustainable economic growth and create more jobs, the Government proposes a coherent framework to improve competitiveness, innovation, and entrepreneurship capacity in Barbados. The actions it supports will encourage the development of a knowledge society and sustainable development based on balanced economic growth.



CHAPTER 7.0

The Strategy

The Barbados Human Resource Development Strategy is premised on a seamless, high quality, demand-driven, enabling environment aimed at empowering citizens to actively contribute to sustainable growth and development in a dynamic and globally competitive economy. The strategy recognises the need to provide a solid basic education and to promote lifelong learning as the foundation for every individual's personal and professional development. It adopts a holistic approach to human resource development which facilitates strategic linkages among stakeholders.

7.1 Vision Statement

An efficient, well-coordinated, effective, knowledge-led, and demand-driven human resource development system responsive to global conditions and Barbadian aspirations.

7.2 Mission Statement

To develop national, institutional, and human capacity so that the potential of all Barbadians is fully realised.

7.3 Purpose

The overall objective of the proposed Barbados Human Resource Development Strategy is to increase competitiveness to allow sustainable growth and poverty alleviation. This would involve building human capacity, and improving employability of Barbadians in order to reduce vulnerability among youth and to improve overall productivity.

7.4 Strategic Pillars

The HRD Strategy stands on five pillars of strategic intervention.

1. An **effective enabling environment for human resource development** including the strengthening of the capacity of critical Ministries, especially Ministry of Education and Human Resource Development and Ministry of Labour, to develop, implement, monitor and evaluate sector policies and programmes in human resource and skills development;
2. An **improved internationally-recognised national qualifications framework** responsive to the dynamic requirements of the competitive and productive sectors, including mechanisms for the development of competency based certification.
3. A **demand-driven educational system** that incorporates systematic needs assessment mechanisms, includes appropriate strategic measures to meet the needs of marginalised youth, and ensures private-sector involvement in education and training provision.

4. A **rationalised knowledge management system** that incorporates information from multiple sources, enhances decision making capabilities, and improves access by all stakeholders.
5. **Enhanced research, innovation, entrepreneurship, and development capacity** including the development of a sustainable financing mechanism for education and training, to which the Government, employers and trainees would contribute.

7.5 Activities

In order to achieve the specific objectives of the Human Resource Development Strategy as included in the five pillars, a number of critical activities have been identified.

1. **Enabling Environment for Human Resource Development:** The Government of Barbados will implement a broad-based human resource development strategy with significant emphasis on institutional strengthening, capacity building, effective coordination, and strategic institutional linkages.
2. **National Qualifications Framework:** A national qualifications framework will be formulated to increase standardisation and quality assurance of educational programmes. Emphasis will be placed on the use of competence-based education and training, and the upgrade and expansion of educational facilities so that qualifications for matriculation and employment opportunities will now incorporate academic and occupational outcomes.
3. **Demand-Driven Educational system:** All employees in the public and private sectors will be provided with opportunities for continual professional development and educational opportunities that are in keeping with industry standards and are aimed at developing appropriate skills, competencies, and attitudes. Educator preparation will include technology integration across the curriculum, and the infusion of life skills, competency-based teaching, and alternative assessment methods as critical aspects of the instructional methodology. Special attention will also be given to the expansion of second chance education and training for all categories of persons.
4. **Knowledge Management Systems:** A comprehensive national knowledge management system will be created to ensure effective knowledge management practices and procedures are followed in the public and private sectors. This system will be utilised to form the basis of decision-making and will include monitoring and evaluation mechanisms for constant review for improvement.
5. **Research, Innovation, Entrepreneurship Capacity:** The Government of Barbados recognises the role that a new culture of enterprise, entrepreneurship, innovation, and research has to play in the national development thrust. Under the fifth pillar the Government of Barbados is promoting research, entrepreneurship and innovation education at the secondary and post-secondary levels with a view to increasing the number of small and medium size enterprises contributing to economic growth.

A logical framework of the activities required to implement each of the strategic goals is included in Annex 4, and an implementation plan for the Strategy is presented at Annex 5.



CHAPTER 8.0

The Strategic Pillars

Human Resource Development penetrates every aspect of an individual's life, every dimension of business operations and every sphere of a country's economy and society. To better target the policies, programmes, and initiatives within the national HRD Strategy five strategic inter-related pillars were identified:

- Strategic Pillar 1: Enabling Environment for Human Resource Development
- Strategic Pillar 2: National Qualifications Framework
- Strategic Pillar 3: Demand-driven Educational System
- Strategic Pillar 4: Knowledge Management Systems
- Strategic Pillar 5: Research, Innovation, and Entrepreneurship Capacity

In this chapter the key objectives, approaches, and indicators for each Pillar are presented. Consistency with the Medium Term Development Strategy is also included.

Figure 8.1 illustrates the five pillars of the Strategy.

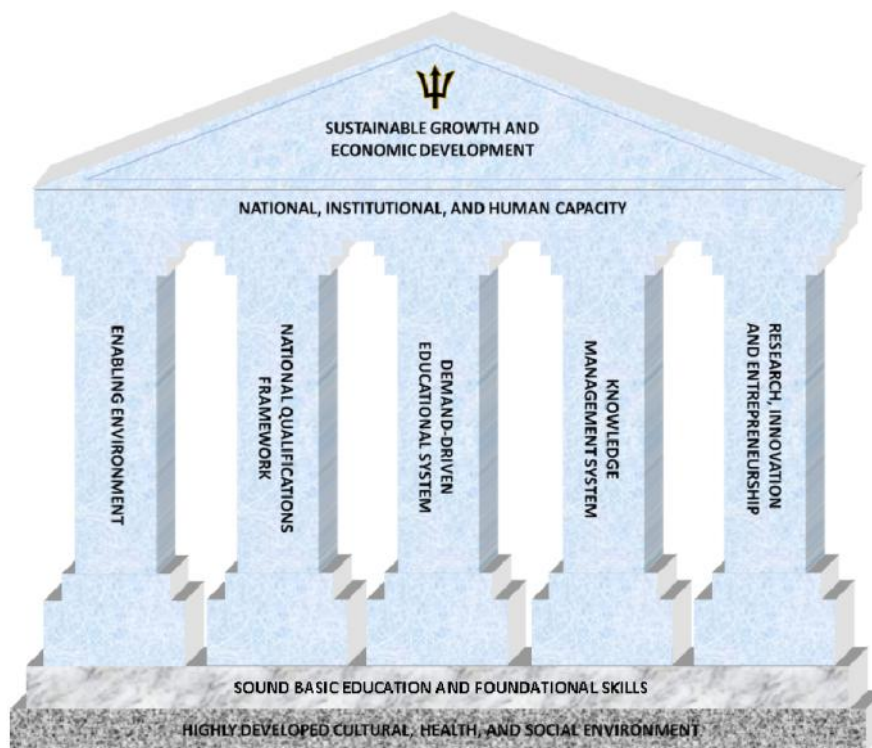


Figure 8.1: The five pillars of the Barbados human resource Development Strategy.

8.1 Strategic Pillar 1: Enabling Environment for Human Resource Development

8.1.1 Rationale

In the public sector, Human Resource Development in Barbados is spread across several ministries and agencies, with major resources residing within the Ministry of Education and Human Resource Development, Ministry of Labour, and Ministry of the Civil Service. Similarly, HRD delivery traverses several agencies within the private sector. The Government recognises that an effective HRD Strategy is an integral part of the wider policy framework for the creation of a climate conducive to attracting and encouraging investment by businesses and to ensure the maximum contribution of investment to sustainable economic development. As such, the Strategy is intimately linked to several strategies within the MTSP.

The first Pillar of the HRD strategy aims to create an appropriate enabling environment for HRD through improved coordination. Resources will be allocated to improve access, quality, and efficiency of service delivery within the sector through capacity building, institutional strengthening, and rationalisation of resources.

STRATEGIC PILLAR 1 ENABLING ENVIRONMENT FOR HUMAN RESOURCE DEVELOPMENT	
STRATEGIC OBJECTIVE	
Creation of an enabling environment for human resource development through institutional strengthening and capacity building.	
ACTIVITIES	
• Activity 1.1: Development and Implementation of HRD Policy and Guidelines • Activity 1.2: Capacity Building	
INDICATORS	
• PI.01: HRD Advisory Council is operational by 2011 • PI.02: HRD Policy approved and disseminated by 2011 • PI.03: HRD Strategy is incorporated into the annual budget across all ministries, departments and Government Agencies (at least 10% of total expenditure) by 2011	

8.1.2 Strategic Objective

Creation of an enabling environment for human resource development through institutional strengthening and capacity building.

8.1.3 Approach

The following core activities will be implemented throughout the life of the Strategy.

Activity 1.1: Development and Implementation of HRD Policy and Guidelines

- Operationalisation of the HRD Advisory Council.
- Terms of Reference for Council formulated, discussed, and approved by members.
- Approval and dissemination of the HRD Policy by 2011
- Incorporation of financial support for the HRD Strategy into the annual budget across all ministries, departments, and Government agencies.
- Government to encourage private sector to continue to support HRD through training and professional development by allocating a minimum percentage (3-5%) of annual budgets to training especially for front-line staff.

Activity 1.2: Capacity Building

- Conducting annual or biennial training needs assessments to determine priority areas for capacity building

- Capacity building for various staff through workshops, conferences, study tours, and related activities.
- Conduct periodic evaluations of the impact of training on productivity, efficiency and effectiveness in service delivery in the public and private sectors
- Staffing of various agencies based on recommendation of institutional assessment.
- Improvement in the physical resources of the various HRD-related agencies.
- Conduct of biannual institutional assessment of HRD-related agencies using the Institutional Assessment Tool.

A detailed implementation plan for this strategic pillar is presented at Annex 5.1.

8.1.4 Indicators

The following Performance Indicators are used for monitoring and evaluating progress toward the achievement of the strategic objective of this Pillar.

- **PI.01:** HRD Advisory Council is operational by 2011
- **PI.02:** HRD Policy approved and disseminated by 2011
- **PI.03:** HRD Strategy is incorporated into the annual budget across all ministries, departments and Government agencies (at least 10% of total expenditure) by 2011
- **P1.04:** % of persons accessing training

8.1.5 Consistency with MTDS

This Pillar is consistent with strategies contained with the Medium Term Development Strategy of Barbados (2010 – 2014), as follows:

- Engage in the creation and implementation of a national HRD Development Plan which will place significant emphasis on the development of our human resources.

8.2 Strategic Pillar 2: National Qualifications Framework

8.2.1 Rationale

The National Qualifications Framework (NQF) is a framework on which standards and qualifications agreed to by educational stakeholders throughout the country are registered. The NQF will be one of the major mechanisms to transform education and training in Barbados. By design it will:

- Combine the educational models into one single framework, and bring together separate educational entities into a single, national system;
- Make it easier for learners to enter the educational system and to progress horizontally and vertically within it;
- Improve the quality of education and training in Barbados;
- Expand access to learning and work opportunities for all;
- Enable learners to develop to their full potential and thereby support the human resource development of Barbados.

STRATEGIC PILLAR 2 NATIONAL QUALIFICATIONS FRAMEWORK
STRATEGIC OBJECTIVE
Development and implementation of an internationally-recognised national qualifications framework.
ACTIVITIES
• Activity 2.1: Development of Policy, Procedures, and Guidelines • Activity 2.2: Development of National Qualifications framework • Activity 2.3: Development of National Vocational Qualifications
INDICATORS
• PI.04: Policy , Procedures, and Guidelines developed and implemented by 2014 • PI.05: At least 40 educational providers registered by 2014 • PI.06: At least 15 different NVQs operational by 2014 • PI.07: Competency standards and CBET curricula used by TVET providers by 2014 • PI.08: A quality assurance mechanism in place by 2012

8.2.2 Strategic Objective

Development and implementation of an internationally-recognised national qualifications framework.

8.2.3 Approach

The following core activities will be implemented throughout the life of the Strategy.

Activity 2.1: Development of Policy, Procedures, and Guidelines

- Development of appropriate policies to support implementation of the NQF.
- Development of guidelines to support the HRD Policy.
- Amendments to the Barbados Accreditation Council Act approved by Cabinet.
- The introduction, promotion, and sensitisation of the NQF to the public.

Activity 2.2: Development of National Qualifications Framework

- Stakeholder meetings including employers and employee representatives, ML, MEHR, and providers.
- Discussion, definition, and agreement on the levels within the NQF.

- Promotion of NQF among stakeholders.
- Registration of educational providers with the Barbados Accreditation Council
- Movement towards programme accreditation by a recognised accreditation body.
- Development of a NQR Portal.

Activity 2.3: Development of National Vocational Qualifications

- Formation of Lead Bodies in support of NVQs.
- Development and approval for standards in various areas.
- Education and training of curriculum specialists.
- Development and distribution of various curricula.
- Education, training, and certification of assessors and evaluators.
- Conduct of assessments.
- Granting of awards for successful completion of NVQs.

Activity 2.4: Implementation of Educational Quality Assurance Mechanisms

- Establishment of quality assurance policy, processes, and guidelines for public and private education and training institutions.
- Development and implementation of a Quality Assurance Plan.
- Continual conduct of quality assurance throughout implementation of Strategy.
- Implementation of National Competence Based Education and Training system.
- Education and training provided for Quality Assurance Officers in the areas of audits, systems, and processes.
- Enhancement of educator preparation programmes.

A detailed implementation plan for this strategic pillar is presented at Annex 5.2.

8.2.4 Indicators

The following Performance Indicators are used for monitoring and evaluating progress toward the achievement of the strategic objective of this Pillar.

- **PI.04:** Policy , Procedures, and Guidelines developed and implemented by 2014
- **PI.05:** At least 40 educational providers registered by 2014
- **PI.06:** At least 15 different National Vocational Qualifications operational by 2014
- **PI.07:** Competency standards and CBET curricula used by TVET providers by 2014
- **PI.08:** A quality assurance mechanism in place by 2012

8.2.5 Consistency with MTDS

This Pillar is consistent with several strategies contained with the Medium Term Development Strategy of Barbados (2010 – 2014), as follows:

- Ensure that all students leaving the secondary system are certificated by restructuring the certification framework through implementation of the Barbados Certificate of Secondary Education and the Caribbean Vocational Qualification.

- Implement the CVQ programme through the retrofitting and physical upgrade of the schools offering the CVQ programme as well as the replacement of outdated machinery and equipment with modern technological equipment and machinery.

8.3 Strategic Pillar 3: Demand-Driven Educational system

8.3.1 Rationale

Economies throughout the world are vulnerable to external shocks and competitive forces. Responsive measures that could be employed include the re-tooling or re-positioning of the workforce within active employment policies. Preventative measures that could be employed by such companies could include a re-tooling or re-positioning of the workforce. Those institutions that can adapt quickly as the working environment changes are better placed to compete or exploit new and emerging opportunities within the new climate. As such, professional development and education needs to be driven by existing and projected market conditions. Decision-makers must also be able to anticipate changes in the workforce by having easy and reliable access to labour market information and related knowledge management systems. The third Pillar of the HRD strategy fully embraces these concepts.

8.3.2 Strategic Objective

Development of demand-driven educational services including improved educator preparation programmes, career planning, quality assurance, and improved provision of second-chance education and training.

8.3.3 Approach

The following core activities will be implemented throughout the life of the Strategy.

Activity 3.1: Enhancement of Labour Market Information Systems to provide relevant HRD related information

- Assessment/audit of all LMI to identify information gaps
- Conduct of tracer, sector, and other relevant studies.
- Upgrade of Barbados Standard Occupational Classification (BARSOC).
- Collection, collation, and analysis of HRD data.
- Dissemination of HRD and labour market information to educational institutions and other entities.

Activity 3.2: Enhancement of career planning services for students and the labour force

STRATEGIC PILLAR 3 DEMAND-DRIVEN EDUCATIONAL SYSTEM
STRATEGIC OBJECTIVE
Development of demand-driven educational services including improved educator preparation programmes, career planning, quality assurance, and improved provision of second chance education and training.
ACTIVITIES
• Activity 3.1: Enhancement of labour market Information Systems to provide relevant HRD related information • Activity 3.2: Enhancement of career planning services for students and the labour force • Activity 3.3: Enhancement of second-chance educational system
INDICATORS
• PI.09: Available information to relevant users • PI.10: Re-established Labour Market Information Advisory Committee by 2012 • PI.11: Career planning services in place by 2014 • PI.12: Number of persons enrolled in second chance programmes increased by 5% annually

- Establishment of guidelines for career planning services.
- Establishment of a central coordinating career planning and counselling centre to facilitate the provision of career planning services and information in and out of educational institutions and the labour force.
-
- Development of educational programmes in career planning.
- Assessment and upgrade of career planning, guidance, and counselling services of the NEB.

Activity 3.3: Enhancement of second-chance educational system

- Assessment of the system for delivery of second-chance education and training.
- Development of an Action Plan for improving second-chance education and training.
- Establishment of a monitoring and evaluation system for second-chance education and training.
- Provision of intervention strategies and counselling services for students at risk of failure, particularly in post-secondary and tertiary institutions.

A detailed implementation plan for this strategic pillar is presented at Annex 5.3.

8.3.4 Indicators

The following Performance Indicators are used for monitoring and evaluating progress toward the achievement of the strategic objective of this Pillar.

- **PI.09:** Available information to relevant users
- **PI.10:** Re-established Labour Market Information Advisory Committee by 2012
- **PI.11:** Career planning services in place by 2014
- **PI.12:** Number of persons enrolled in second chance programmes increased by 5% annually

8.3.5 Consistency with MTDS

This Pillar is consistent with several strategies contained with the Medium Term Development Strategy of Barbados (2010 – 2014), as follows:

- Improving the quality of the labour market information used to support employment and training fund decisions.
- Increase the enrolment of trainees involved in apprenticeship, skills training and other programmes offered by the Barbados Vocational Training Board.
- Equip the labour force with the skills to function in the global economy through the provision of high quality and targeted education and training.
- Seek to retrain and train teachers in competency-based education methods as well as education and training in the use of the cutting-edge equipment and machinery being used in industry.
- Upgrade and expand facilities at SJPP, BVTB in light of implementation of the CVQs and seek to establish a fully functional NVQ/CVQ Centre during the plan period.

8.4 Strategic Pillar 4: Knowledge Management Systems

8.4.1 Rationale

The Government of Barbados recognises the importance of effectively leveraging the power of technology in support of effective decision-making, policy development, good governance, and promotion of innovative and entrepreneurial endeavours. To this end, the Government is currently in the process of implementing its Information and Communication Technology Strategy (2009 – 2013). Further, the Government supports an enabling environment in which knowledge is created, shared, and applied more systematically and effectively in improving information flow, process reengineering, and policy formulation.

The fourth pillar is designed to address knowledge management related issues that impact directly and indirectly on the human resource development sector.

STRATEGIC PILLAR 4 KNOWLEDGE MANAGEMENT SYSTEMS
STRATEGIC OBJECTIVE
Rationalisation of knowledge management systems and improved information access.
ACTIVITIES
• Activity 4.1: Development of a comprehensive knowledge management action plan • Activity 4.2: Enhancement of HRD related systems
INDICATORS
• PI.13: Comprehensive knowledge management action plan developed and approved by 2011 • PI.14: Enhanced knowledge management systems in place by 2014

8.4.2 Strategic Objective

Rationalisation of knowledge management systems and improved information access.

8.4.3 Approach

The following core activities will be implemented throughout the life of the Strategy.

Activity 4.1: Development of a comprehensive knowledge management action plan

- Conduct of technology systems audit to determine current state of national information management systems.
- Development of the interoperability framework to facilitate the synergies among national information management systems. To be located in the BSS
- Articulation of a comprehensive Knowledge Management Framework to include protocols, processes, and strategies for effective knowledge management within the public sector.
- Establishment of a monitoring mechanism for the knowledge management system.

Activity 4.2: Enhancement of HRD-related knowledge management systems

- Enhancement of the Labour Market Information System and its related portals to facilitate increased access by Government, employers, and workers.
- Enhancement of the Education Management Information System and its related portals to facilitate increased access by Government, institutions, and individuals.
- Development of a National Qualification Register (NQR) to be managed by the Barbados Accreditation Council.

- Improvement of the document management processes and enhancement of the electronic document management systems within HRD-related agencies.
- Education and training of various staff in the development, use, and maintenance of knowledge management systems.

A detailed implementation plan for this strategic pillar is presented at Annex 5.4.

8.4.4 Indicators

The following Performance Indicators are used for monitoring and evaluating progress toward the achievement of the strategic objective of this Pillar.

- **PI.13:** Comprehensive knowledge management action plan developed and approved by 2011
- **PI.14:** Enhanced knowledge management systems in place by 2014

8.4.5 Consistency with MTDS

This Pillar is consistent with several strategies contained within the Medium Term Development Strategy of Barbados (2010 – 2014), as follows:

- Enhance the Barbados Labour Market Information System to deliver reliable, accurate, and relevant information to the key agents in the labour market such as students, job seekers, workers, and employers.
- Establish the Education Technology Management Unit to continue to manage the significant investment made through the distribution of ICTs across the education sector and continue to provide new technology to the sector.

8.5 Strategic Pillar 5: Research, Innovation, and Entrepreneurship Capacity

8.5.1 Rationale

The Government of Barbados seeks to develop a cadre of highly skilled researchers, scientist and other such persons capable of undertaking research in areas critical to development and who are capable of developing and adapting new and existing technologies. In so doing, the Government recognises that innovation has a beneficial impact on both national economic growth and on corporate performance. Indeed, organisations, especially those in advanced nations with high labour costs, have become painfully aware that even in their new slimmed down, outsourced, globalised guise, they cannot conduct business as before. Indeed, a large number of studies have found a positive relationship between research and development and growth in output. It is also abundantly clear that entrepreneurship is important for economic growth, productivity,

STRATEGIC PILLAR 5 RESEARCH, INNOVATION, AND ENTREPRENEURSHIP CAPACITY	
STRATEGIC OBJECTIVE	
Enhancement of research to improve innovation, and entrepreneurship capacity.	
ACTIVITIES	
• Activity 5.1: Promotion of strong research culture • Activity 5.2: Creation of opportunities for the development of innovative goods and services • Activity 5.3: Enhancement of opportunities for entrepreneurship	
INDICATORS	
• PI.15: Technical capacity in research, innovation, and entrepreneurship strengthened and expanded by 2013. • PI.16: Increased opportunities for the development of innovative goods and services • PI.17: Enhanced opportunities for entrepreneurship.	

innovation, and employment.

The first pillar of the Barbados HRD Strategy seeks to promote a culture of research, innovation, and entrepreneurship as a strategy for future advancement of the country.

8.5.2 Strategic Objective

Enhancement of research to improve innovation, and entrepreneurship capacity.

8.5.3 Approach

The following core activities will be implemented throughout the life of the Strategy.

Activity 5.1: Promotion of a strong research culture

- Disseminating information on Science and Technology to all Barbadians to garner support and engender greater understanding of its role in national development.
- Cooperating with educational institutions to develop the capacity to teach the skills needed in the new knowledge-based society and build research capacity.
- Creation of virtual platforms for knowledge sharing among the research community.
- Creation of incentives for targeted research in the private sector as it relates to building or developing technologies, concepts, and products.
- Organisation of technical conferences for the sharing of information.

Activity 5.2: Creation of opportunities for the development of innovative goods and services

- Encouraging of an innovation driven entrepreneurial culture through the intensification of research and development.
- Providing enhanced opportunities for training and professional development in specialised occupations in agriculture and the cultural industries
- Promoting research partnerships with UWI, other institutions and Ministry of Agriculture to facilitate the decentralisation of some research in the sector
- Reform of extension services through increasing the number of trained/skilled technical persons available to work with farmers

Activity 5.3: Enhancement of opportunities for entrepreneurship

- Creation of employment opportunities through education, training, and other incentives for small business development and the growth of innovative ideas.
- Establishment of a fiscal framework to support research and development, and to stimulate private sector investment in the Green Economy.
- Review of the fiscal and legislative framework currently in place for the development of SMEs
- Development of a centralised and harmonised mechanism for the establishment of businesses
- Development of an information system to provide timely and accurate data to support the growth of SMEs.

A detailed implementation plan for this strategic pillar is presented at Annex 5.5.

8.5.4 Indicators

The following Performance Indicators are used for monitoring and evaluating progress toward the achievement of the strategic objective of this Pillar.

- **PI.15:** Technical capacity in research, innovation, and entrepreneurship strengthened and expanded by 2013.
- **PI.16:** Increased opportunities for the development of innovative goods and services
- **PI.17:** Enhanced opportunities for entrepreneurship.

8.5.5 Consistency with MTDS

This Pillar is consistent with several strategies contained with the Medium Term Development Strategy of Barbados (2010 – 2014), as follows:

- Disseminating information on Science and Technology to all Barbadians to garner support and engender greater understanding of its role.
- Cooperating with like-minded institutions of learning to develop the capacity to teach skills needed in the new knowledge-based society and build research capacity.
- Working along with businesses involved in targeted research as it relates to building and/or developing new and existing technologies, concepts, and products.
- Developing and accessing funding to acquire technological resources, equipment, and other forms of capital for both public and private research institutions.
- Encourage an innovation-driven entrepreneurial culture through the intensification of research and development efforts with the UWI and other stakeholders.
- Promoting the education and the professional development of existing local scientists, technologists, and engineers.
- Create employment opportunities through education, training, and other incentives for small business development and the growth of innovative ideas that will empower persons.
- Establish a fiscal framework to support research and development, and to stimulate private sector investment in the Green Economy.



CHAPTER 9.0

Implementing the Strategy

This chapter provides further details as to the manner in which the HRD Strategy will be operationalised.

9.1 Coordination and Implementation

9.1.1 Implementing Agency

The implementing agency for the HRD Strategy will be the Ministry of Education and Human Resource Development. However, programme delivery will be spread across multiple ministries and agencies. Annex 6 provides a chart of the functional framework for human resource development in Barbados.

The HRD Division's mission is to build a stronger and more competitive Barbados through sustained investment in human capital, to support Barbadians in making choices that help them live productive and rewarding lives, and to improve Barbadians' quality of life through lifelong learning. The Division focuses on the following:

- Development of policies that make Barbados a society in which all can use their talents, skills and resources to participate in lifelong learning, work and the community;
- Creation of initiatives that allow Barbadians to move through life's transitions - from families with children to seniors, from school to work, from youth-at-risk to mainstreaming, from one job to another, from unemployment to employment, from the workforce to retirement as well as support entrepreneurship;
- Creation of better outcomes for Barbadians through the deepening of ties with other partners, such as the Ministry of Labour to develop demand-driven professional development and educational programmes to cater to a changing workforce;
- Enhancement of research to improve innovation, entrepreneurship, and development capacity.

At the operational level, the HRD Division, headed by a Human Resource Development Specialist, delivers HRD functions in the Ministry of Education and Human Resource Development. The Human Resource Specialist focuses on the implementation of the human resource policies and initiatives, facilitates the regulatory and legislative frameworks, and directs education, training, and career path development programmes aimed at building the human resource capacity at the national level. The Human Resource Specialist works in collaboration with an Economist with responsibility for labour market systems; a Research Officer with responsibility for Human Resource Development; and other support staff.

9.1.2 Human Resource Development Programme Coordinator

This institutional mechanism will be further supported through the recruitment of a **Programme Coordinator** whose mandate will be the facilitation of the implementation of activities under the five pillars of the Barbados HRD Strategy. Specifically, the Programme Coordinator will provide project management expertise, monitoring of the implementation of the programme, and provision of relevant technical guidance. This Coordinator will work in close collaboration with the HRD Division of the MEHR.

9.1.3 Human Resource Development Advisory Council

At the policy formulation level, a **Human Resource Development Advisory Council** will advise the Minister on the following:

- (a) The formulation of a human resource development policy framework;
- (b) The development of a human resource development legislative framework;
- (c) The development of a system to coordinate, maintain and evaluate human resource development policy, planning and research;
- (d) The development of a system to provide data to inform human resource development policy and planning;
- (e) Provide policy advice to the Minister on areas of human resource development; and,
- (f) Assist in conceptualising a national vision for the development of human resources.

The Council, which has already been approved by Cabinet, includes representatives from the following agencies:

- Ministry of Education and Human Resource Development
- Ministry of Labour
- Human Resource Management Association of Barbados
- Principal Training Officer
- Barbados Youth Development Council
- University of the West Indies
- Congress of Trade Unions and Staff Association of Barbados (CTUSAB)
- Barbados Private Sector Agency

9.1.4 The Programme Steering Committee

A **Programme Steering Committee** already exists and has been actively involved in the formulation of the HRD Strategy. The Committee will continue to function in a technical, advisory, and monitoring capacity throughout the life of the programme.

9.1.5 Technical Assistance

In addition to building capacity at the various agencies, it will also be necessary to source specific technical assistance in some critical areas, as follows:

- Development of HRD Policy Guidelines
- Development of the NQF and its related policy guidelines.
- Development of an electronic, online qualifications database

- Update of the Barbados Standard Occupational Classification system
- Conduct of skills needs assessments and tracer studies
- Development of a plan for improving second chance education opportunities
- Development of a framework for establishment of career counselling centres in TVET institutions managed under a Central Career Counselling Centre at the MEHR
- Articulation of a Quality Assurance Policy and Action Plan
- Development of a comprehensive knowledge management plan shaped by an audit of the existing knowledge management system and includes the creation of an interoperability framework
- Establishment of a virtual platform for sharing relevant information to support research and development efforts
- Conduct of a comprehensive study to evaluate Barbados' innovation landscape and to develop the Innovation Strategy and Policy guidelines towards its implementation including Performance and monitoring systems for various strategic components.
- Development of promotion and Marketing strategies for the HRD Strategy and its critical components.
- Development of a Lifelong Learning Policy.
- Establishment of an enabling environment for human resource development through institutional strengthening and capacity building
- Development of an internationally-recognised national qualifications framework
- Development of a demand-driven professional development and training services.

9.2 Benefits of the Strategy

Several benefits will be derived from the Strategy:

- Staff in many departments and agencies of Government will benefit from capacity building and educational programmes of the strategy, resulting in a better trained civil service capable of providing more effective services to the public. This will allow Government ministries to make better use of more highly trained staff.
- The development of a NQF will provide for better educational quality to all students and trainees in the educational system. Qualifications previously unrecognised will now be acknowledged allowing progress to higher education levels. The registration and accreditation of more educational institutions will result in higher educational standards being provided across the system. This will promote enhanced confidence amongst the public in education and the educational programmes offered by those Institutions that have registered with the Barbados Accreditation Council.
- The development of CVQs/NVQs will result in more consistency and strengthening of standards across the educational system. Certificates and diplomas awarded to vocational education graduates will be consistent and more widely recognised. In addition, there will be enhanced employability of educational recipients, particularly those that have pursued TVET areas, through the upgrade of their skills sets.
- The development of a comprehensive knowledge management system will result in more effective labour market planning and the delivery of more market relevant educational programmes. Policymakers in Government will have access to current information on the labour market whereas career planning experts will have the necessary information to provide students and job seekers with advice on job

opportunities and career paths. Educational institutions will have the information to develop those programmes which respond to market needs.

- The implementation of a CBET system will result in more relevant assessable and higher quality education and training services.
- The development and promotion of a research culture enhance potential for the development of new technologies resulting in the production of more local products. Additional benefits include easier access to financing for small and micro-business entrepreneurs, and increased number of persons pursuing self-employment opportunities.

9.3 Financing Mechanisms

Implementation of the Barbados HRD Strategy is estimated to cost BDS 583,000,000 over the five year period based on the recurrent budget of all HRD arms of Government. Table 9.1 provides a summary of the cost associated with each pillar of the Strategy. In addition to the costs directly associated with the implementation of the Strategy, the Government will continue its support to the sector which currently stands at over BDS 600 million annually.

Table 9.1 Summary Costs for Implementation of Strategy (BDS)

Strategic Pillar	Government Contribution	External Contributions	Total Cost
Strategic Pillar 1: Enabling Environment for Human Resource Development	124,200,000	13,800,000	138,000,000
Strategic Pillar 2: National Qualifications Framework	96,750,000	10,750,000	107,500,000
Strategic Pillar 3: Demand-Driven Educational System	154,350,000	17,150,000	171,500,000
Strategic Pillar 4: Knowledge Management Systems	49,500,000	5,500,000	55,000,000
Strategic Pillar 5: Research, Innovation, and Entrepreneurship Capacity	99,900,000	11,100,000	111,000,000
Total	524,700,000	58,300,000	583,000,000

In the initial stages most of the funding for the HRD Strategy will come from the Government's general budget. A greater involvement of the private sector in the implementation of the HRD strategy could result in more opportunities for collaboration and financial support.

The strategy is being financed in part through a grant from the European Union. This funding will be in the form of sector budget support over a four year period. This grant consists of Euro 14.77 million (BDS 37.3 million)²⁸ from the Accompanying Measures for Sugar Protocol Countries and a further Euro 8.3 million (BDS 21.0 million) from the 10th European Development Fund.

²⁸ Based on conversion rate of 2.52660 (July 2010).

Other development partners including the IDB and CDB will be providing financing to facilitate aspects of HRD through investment in Education and Training. The IDB is investing monies into the Education and Human Resources Sector through a new loan for BDS 60 million. This loan will support Government's efforts to improve the skills and qualifications of youth in transition from school to the labour market as the country's seeks to create a highly skilled labour force. The programme will focus its interventions on strengthening the school-to-work transition; improving overall quality of the education system; and strengthening policy and strategic planning capabilities. Key areas of focus will be an Agricultural Feasibility Study for the Hope Agricultural Training Institute, Reform of Teacher Training including Teacher Trainers, the Ministry of Labour through the TVET providers and the Labour Market Survey. Technical Assistance is also being garnered for the Ministry of Agriculture by Strengthening the Service Delivery Capacity of the Ministry through Organisational and Operational Strengthening.

The Government of Barbados is also accessing BDS 60 million in financing through the CDB to augment the investment in human resource development through continued inputs in education and training. At the centre of the proposed interventions are the implementation of teacher professional development programmes and training of the trainers in teacher education and preparation with a view to improving the output of students leaving basic, post-secondary and tertiary education with adequate certification, knowledge, skills and competencies in literacy, numeracy, science and technology. Emphasis is being placed on sustaining and building on the various reforms implemented over the last decade to realise much desired improvements in learning outcomes at all levels. Priority is being given to improving access to quality TVET programmes aligned to labour market needs; the provision of special needs education; the provision of alternative education programmes for at-risk students and youth; the development of a system of teacher registration/licensing; and the development of a new education sector strategy. The hospitality and agricultural sectors have also been identified to benefit from the new Country Strategy with the CDB.

9.4 Risks and Assumptions

A number of assumptions and risks are associated with implementation of the HRD Strategy which needs to be closely monitored to ensure their mitigation:

1. Many of the HRD strategies assume that policies and guidelines will be in place for the proper implementation of the HRD Strategy. Legislation pertaining to the Information Act and the Intellectual Property Act may impact the strategy relating to the creation of a culture of research and development. This legislation is already at an advanced stage within the drafting process and expected to be approved by the 2011 – 2012 financial year. Annex 9 provides a listing of existing legislation.
2. It is also assumed that external factors such as the global recession will have disruptive effects on the internal job market, which in turn would affect the labour market activities of the HRD Strategy. It is assumed that there will be a willingness of stakeholders to cooperate in the strategy including maintenance of the existing social partnerships and tripartite social dialogue. Similarly, ongoing national and regional dialogue is assumed for the activities within the Plan.
3. To ensure that there is commitment from all the relevant Ministries and Departments, it is assumed that the signed Memorandum of Understanding between relevant Ministries will be upheld.

4. It is important that there is continual dialogue with regional and international education and quality assurance agencies to ensure that the National Qualifications Framework is consistent with the requirements of international standards.
5. It is assumed that there will be sufficient technical and financial capacity to implement the Strategy. It assumes that budgets will be approved by Government and that there will be timely identification of institutional needs.
6. The HRD Strategy also calls for timely, current, and relevant labour market information to make informed decisions. It is assumed that this will be available for the success of the plan.

9.5 Accountability, Monitoring, and Evaluation

The HRD Programme Steering Committee and the Project Coordinator will have primary responsibility for the monitoring and evaluation of the Strategy. Monitoring and evaluation will be based on performance indicators outlined in the implementation plan. Specific agencies will be accountable for particular activities within the plan and need to ensure that objectives are being met according to the plan. Monitoring will also take place through regular meetings organised by the Government with stakeholders and development partners. The key event will be an annual review of the macro-economic performance, the Public Financial Management situation, and progress within the HRD sector. In addition, a Performance Assessment Framework will be developed. It is also envisaged that an external mid-term and end-of-term evaluation will be conducted.

9.6 Promoting Sustainability

In order to ensure sustainability a number of factors undergird the Strategy, as follows:

1. Wide participation and a clear, shared purpose.
2. Signature of a Memorandum of Understanding between Ministries as a means of ensuring commitment between the key partners.
3. As much information as possible should be shared among the stakeholders and constituents. Regular feedback will determine the depth of knowledge and the next steps in the process.
4. Resources should be in place and readily available (instructors, staff, financial, intellectual, physical, technical etc.). All contribute to the sustainability of the plan, without which, risks emerge to threaten the plan's viability.
5. Capacity building through the acquisition of skills and knowledge by staff is critical to promoting sustainability.

9.7 Communication and Visibility

The Strategy supports the implementation of communication and public relations activities including formal high-level public outreach activities with main stakeholders. Outreach activities will ensure well-informed discussion among the relevant stakeholders through the media and within Government, private sector, non-state actors, and development partners. A promotion and marketing plan for raising awareness and dissemination of outputs will also be in place throughout the duration of the Strategy.

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