



Republic of Trinidad and Tobago

Policy on Tertiary Education, Technical Vocational Education
and Training, and Lifelong Learning In Trinidad And Tobago



The Ministry of Science,
Technology and Tertiary Education

"Providing a World of Opportunity"

"FRAMEWORK FOR SUSTAINABLE DEVELOPMENT"

October
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FOREWORD

The Government of Trinidad and Tobago has developed a framework for sustainable development based on seven (7) interconnected pillars as the cornerstone of our strategy. One of these pillars is to develop *“A More Diversified, Knowledge Intensive Economy – Building on the Native Genius of Our People.”*

To meet this goal and, as a part of Trinidad and Tobago’s response to rapid changes in both the global and local economic environment, there is need for significant changes in the landscape of tertiary education, technical and vocational education and training, and lifelong learning. Our country, our democracy and our institutions are works in progress requiring a unique kind of 21st century citizen who must, among other things, be innovative, entrepreneurial, community-oriented, civic-minded, ethical and capable of critical-thinking and possess the ability to creatively confront the plethora of challenges which face us, while grasping the opportunities as they arise.

It is the role of the Ministry of Science, Technology and Tertiary Education (MSTTE) to develop policies that are internationally benchmarked and driven by the needs of the labour market. We understand that human capital development is a major contributor to economic growth and sustainable wealth creation. Our principal strategy, therefore, is to expand and develop tertiary education to a 60% participation rate, a target which is attainable because of the increased public sector incentives for accessing tertiary education programmes since 2000.

Technical and vocational education and training will also be strengthened as part of a seamless system to allow for alternative pathways to further and higher education. This system will also support learning and skills transfer, strengthen workforce competence, support industrial development and promote workplace readiness through the award of the Caribbean Vocational Qualification (CVQ).

While the Government’s Assistance for Tuition Expenses (GATE) will be secured and expanded in new and innovative ways to close the opportunity-gap in tertiary participation for at-risk groups, the policies of the MSTTE will be directed towards the rationalizing of the post-secondary sector to avoid duplication, wastage and needless overlap, to build efficiencies and effectiveness in the system and to support accountability and synergy in the sector.

Now that the consultation process has been completed it is the Ministry’s aim to develop a system that will guide the governance, management and operations of tertiary education, technical and vocational education and training, and lifelong learning in Trinidad and Tobago.

I thank everyone who has assisted in developing the Green Paper and who participated in the national policy consultations and look forward to working with all stakeholders as we seek to develop a nation with prosperity for all.



Senator the Honourable Fazal Karim
Minister of Science, Technology and Tertiary Education

ACKNOWLEDGEMENTS

This policy paper is the culmination of the efforts of several ministerial and professional educators concerned with tertiary education and training development in Trinidad and Tobago.

Cabinet, in November 2008, agreed to the establishment of a Review Committee to harmonize the draft policies on tertiary education development, national training, and distance and lifelong learning. This primarily involved the revision and updating of The National Policy on Tertiary Education, Training, Distance and Lifelong Learning: A Green Paper (2004), as well as the inclusion of various advancements which occurred within the sectors in recent years. The Draft Policy, which was essentially a distillation of these elements, was produced and accepted by Cabinet in December 2009.

In June 2010, Cabinet approved the hosting of national consultations to afford stakeholders the opportunity to express their views on the Draft Policy on Tertiary Education, TVET and Lifelong Learning. Subsequent to this, a Technical Review Committee was appointed to review the Draft Policy in light of stakeholder viewpoints and international best practices. The Committee was constituted as follows:

Professor Clément Imbert	Review Committee Chairman/Deputy Dean, Faculty of Engineering, UWI
Dr. Ruby Alleyne	Vice President, Quality Assurance and Institutional Advancement, UTT
Mr. Nizam Ali	Manager, Technical-Vocational Education and Training, MSTTE
Mrs. Natthoya Baptiste-Phillip	International Programme Officer, MSTTE
Mrs. Elphege Joseph	Chief Executive Officer, National Training Agency
Mrs. Sharon Mangroo	Director, Curriculum Development, MOE
Mr. Robin Maraj	Executive Director, SBCS
Dr. Gillian Paul	Vice President - Academic Affairs, COSTAATT
Ms. Shanmatee Singh	Director, Research and Planning, Ministry of Labour, Small and Micro Enterprise Development

EXECUTIVE SUMMARY

The Government of the Republic of Trinidad and Tobago (GORTT) has signalled a movement towards greater civic engagement and collective responsibility in pursuit of the strategic development goals outlined in the Seven Interconnected Pillars for Sustainable Development.

Importance of Tertiary Education and TVET in National Development

In the context of the Framework for Sustainable Development, the Government recognises that tertiary education, technical and vocational education and training (TVET) and lifelong learning play a pivotal role in the social, economic and cultural development of modern societies.

The Ministry of Science, Technology and Tertiary Education (MSTTE)

The Ministry of Science, Technology and Tertiary Education (MSTTE) is responsible for tertiary education, technical and vocational education and training (TVET), science and technology.

The Ministry of Education

The Ministry of Education is responsible for education up to, and including, the secondary level. Education from early childhood to the tertiary level is a continuum, articulated by common threads of seamlessness and lifelong learning.

Establishment of a Seamless, Integrated System of Education

The Ministry's policy for development of tertiary education, TVET and lifelong learning is to ensure that the systems, structures and mechanisms are coherent, properly regulated and well-governed, to create all the necessary linkages for the establishment of a seamless education and training system, taking into account the policies and goals of early childhood, primary and secondary education, as well as those which facilitate social, economic, industrial and sectoral development.

Investment in Tertiary Education and TVET and Participation

The magnitude of the country's investment in tertiary education and TVET over the past decade is significant (of the order of two (2) billion US dollars). The country has reported significant increases in the local tertiary education participation rate within recent years, from approximately 7% in 2001, to 15% in 2004 and 40% in 2008, steadily increasing through government incentives so as to achieve a targeted participation rate of at least 60% by 2015.

Government is cognizant of the challenges ahead in its quest to achieve this target. The Ministry has taken account of the critical changes occurring in the post-secondary and tertiary education sector, and in accordance with the Government's commitment to responsible governance and sustainable development, the Ministry has consulted with, and taken the views of all stakeholders, including students.

Government will ensure that with increased participation it shall cater for those citizens who have been historically disadvantaged in respect of access to tertiary education and TVET due to systemic barriers, such as the differently-abled, the financially challenged, the academically under-prepared, and those who live in rural communities. In this context the Ministry needs to accelerate the development of a more flexible learning system, including distance education and resource-based learning based on open learning principles.

Commitment to Regulation and Quality

The attainment of significantly higher levels of participation should not compromise quality. The Ministry is committed to further harmonization and strengthening of the regulatory frameworks, systems and co-ordinating mechanisms for quality assurance and accreditation of tertiary education, TVET and lifelong learning. This will be facilitated through full implementation of a Memorandum of Understanding (MOU) which was signed between the Accreditation Council of Trinidad and Tobago (ACTT) and the National Training Agency (NTA) on July 14th 2010.

In order to strengthen sectoral and institutional governance for greater effectiveness and efficiency it is important, among other things, to establish a tertiary education and TVET research agenda and the building of capacity to develop critical information sources that are essential to drive decision making and policy design in tertiary education and TVET. There can be no meaningful change in the governance of the sector unless it is understood that system governance necessarily extends not only to Government but to governance practices within other institutions that comprise the tertiary education and TVET system.

A comprehensive and centralized data-driven system of performance monitoring is required (based on qualitative and quantitative performance indicators) in order to continuously assess institutional quality and effectiveness and encourage and reward institutional improvement. In this context, the national system should be compatible with other regional and international systems, such as the Integrated Postsecondary Education Data System (IPEDS) utilized by the National Centre for Education Statistics (NCES) in the United States.

System quality must also consider quality in teaching and learning throughout the system and, in particular, to ensure that curricula are relevant and responsive to the national and regional contexts.

Commitment to Rationalization and Harmonization

The Ministry is also committed to rationalization and harmonization of tertiary education, TVET and lifelong learning to achieve seamlessness to facilitate greater horizontal and vertical mobility by developing a National Qualifications Framework (NQF) which incorporates articulation routes as well as flexible entry and exit points and the implementation of a standardized approach to a common unit of academic currency which will facilitate articulation and transfer among institutions and portability and accumulation of credits.

This is particularly important in TVET where a proliferation and duplication of training programmes, technical and vocational education courses, and skill preparation activities,

along with the associated certificates, diplomas, and miscellaneous qualifications, have been offered by Ministries and Ministry-led programmes, other public institutions, as well as private institutions. The same National Vocational Qualification (NVQ) qualification can originate from curricula, duration and assessment that are quite different in quality, level and form.

Need for a Formal Policy

There has been major progress in the introduction of sector-level and institutional policies, programmes and services to expand access to, and improve, the quality and relevance of tertiary education and TVET in Trinidad and Tobago. Yet, in spite of, or perhaps because of this phenomenal growth in tertiary education and TVET provision, there is still a pressing need for more effective governance, coordination and management of the sector, if it is to achieve its objectives within the national development landscape.

This Policy outlines a comprehensive set of initiatives for the advancement of tertiary education, TVET and lifelong learning through the development of a coherent, effective and integrated sector that provides multiple pathways for all citizens to navigate successfully through a seamless education and training system. This policy seeks to establish integrity, relevance, quality, access, accountability and performance as hallmarks of the educational system to ensure that social and economic needs are met, and fulfil the expectations of a nation that is in transition to a competitive, knowledge-driven and sustainable society.

Policy Vision

The policy vision is in consonance with the United Nations General Assembly (UNGA) adopted resolution 57/254 of December 2001, to put in place a United Nations Decade of Education for Sustainable Development (DESD), spanning from 2005 to 2014, with United Nations Educational, Scientific and Cultural Organisation (UNESCO) designated to lead the DESD initiatives. The vision of the DESD is a world where everyone has the opportunity to benefit from quality education with a view to building a sustainable future.

Requirement for Legislation

Tertiary education, like the other levels of the education system, requires its own guiding legislative framework for the proper management and development of the sector. There are several reasons for the enactment of legislation that is specific to tertiary education and to TVET. Legislation regarding the governance of TVET may require separate consideration.

Model of Governance from the Framework for Sustainable Development

The model of governance for tertiary education takes its cue from the Government's "Framework for Sustainable Development" and seeks to integrate the somewhat fragmented components of the tertiary sector into a single, well coordinated system, in which the roles and importance of various levels and types of programmes, institutions, and support organizations are clarified, affirmed and supported, relative to national development goals.

The National Commission for Higher Education

It is envisioned that effective governance of the national education system will be enhanced by the establishment of a National Commission for Higher Education with membership comprising representatives of every level of the education system. This broad-based representation will ensure that planning for tertiary education development and transformation, and policy formulation, implementation and review take cognizance of all elements and activities within the national education system, including early childhood, primary, secondary, post-secondary, TVET, sub-baccalaureate, and tertiary. In addition, the Commission's membership should include representatives from government, tertiary education institutions (including private Tertiary Level Institutions (TLIs)), commercial and industrial entities, professional organizations and student bodies.

Need for Greater Emphasis on Science and Technology

Policy formulation must address curricular reform at all levels of the education system with an emphasis on science, technology and most importantly innovation, problem-solving skills and entrepreneurship. The tertiary education and TVET policy should be aligned to a national policy on science, technology and innovation (STI). Whereas the country's overall investment in STI is significant, the direct investment in research and development is considerably less than 1% of GDP, which is very low compared to that of developed countries. A change has to occur in the education system, which is a necessary, but by no means sufficient condition, for nurturing a culture of innovation and entrepreneurship. Increased availability of funding in this area will have the effect of nurturing a research culture and capacity in tertiary education and TVET, one of the major areas of underdevelopment in the sector. However other conditions and inducements such as the availability of venture capital and incentives for product design and development are also necessary for success

Funding

At present, the Government of Trinidad and Tobago is the primary source of tertiary education and TVET funding, which is delivered through various government ministries, and the primary use of this funding is to support delivery of education and training programmes. Government will place increasing emphasis on linking access to public funds to evidence that institutions are meeting key performance indicators.

Mature and well-developed tertiary education and TVET systems are generally characterized by multiple funding agencies and financing mechanisms which target different outcomes. In such systems, the government is only one of several stakeholders in the funding regime. Foundations, international organizations, the corporate sector and professional associations also provide significant financial support for tertiary education development. These organizations are able to fund different aspects of education and training development and in so doing, ensure that the sector as a whole has the knowledge and capacity to advance the achievement of social and economic development goals, and to bring about improvements in quality, effectiveness and efficiency.

The Government will explore public/private partnerships for the financing of major infrastructural development projects. For example, fiscal incentives can be provided to encourage private sector financing. More significantly, Government proposes to secure the sustainability of funding for tertiary education and TVET through the establishment of a National Training and Development Fund.

Links to the Economic Development Board and Council for Competitiveness

Given the critical role played by tertiary education, TVET and STI in human capital development and the creation of a knowledge economy, the National Commission for Higher Education should also establish strong linkages with the proposed Economic Development Board and Council for Competitiveness and Innovation, in order to ensure that STI is not only emphasized in the curriculum but is linked to other enabling economic provisions in support of the country's strategies for socio-economic growth, development and competitiveness.

Conclusion

The Government of the Republic of Trinidad and Tobago is committed to people-centred, sustainable development and the building of a competitive economy. According to the UNESCO Strategy for the second half of the United Nations DESD, "reorienting education to integrate sustainable development principles, values and practices must take place not only in formal institutions but also in many other learning processes and social settings. Moreover, although creating an education that empowers people to address important sustainable development challenges is a multi-stakeholder endeavour – a task for the whole society – the primary responsibility lies with the government."

To ensure the progressive and full implementation of this policy, it is recommended that the Government establish a Multi-sectoral Task Force to develop a National Strategy for Education for Sustainable Development (ESD).

Challenges, Vision and Principles

1.1. INTRODUCTION

1.1.1. The Government of the Republic of Trinidad and Tobago (GORTT) has signalled a movement towards greater civic engagement and collective responsibility in pursuit of the strategic development goals outlined in the Seven Interconnected Pillars for Sustainable Development. These are:

- People-Centred Development
- Poverty Eradication and Social Justice
- National and Personal Security
- Information and Communication Technologies
- A more diversified, Knowledge Intensive Economy
- Good Governance
- Foreign Policy

1.1.2. In the context of the Framework for Sustainable Development, the Government recognises that tertiary education, technical and vocational education and training (TVET), and lifelong learning, play a pivotal role in the social, economic and cultural development of modern societies. Globally, higher levels of participation are linked to increased productivity and greater social and economic development, as well as to better health, lower crime rates and the development of more cohesive and inclusive communities. The basic tenet of sustainable development is that, as global citizens, we must provide for our current needs without compromising our ability and the ability of future generations to provide for their own needs.

1.1.3. It is to this overarching philosophy that the Government is committed and, in this context, the strategy for the development of this sector is shaped by the vision of having a system that guarantees equal opportunity and access for all citizens to high-quality, relevant and culturally appropriate education and training that stimulates and channels the intellectual and creative capacity of our citizens, towards the development of a knowledge-oriented and technologically-advanced society.

1.1.4. The Ministry of Science, Technology and Tertiary Education (MSTTE) is responsible for tertiary education, technical and vocational education and training (TVET), and science and technology. The Ministry of Education is responsible for education up to, and including the secondary level. Education from early childhood to the tertiary level is a continuum, articulated by common threads of seamlessness and lifelong learning.

1.1.5. This Policy outlines a comprehensive set of initiatives for the advancement of tertiary education, technical and vocational education and training (TVET) and lifelong learning

through the development of a coherent, effective and integrated sector that provides multiple pathways for all citizens to navigate successfully through a seamless education and training system.

1.2. VISION

1.2.1. The vision for tertiary education, TVET and lifelong learning is to construct a more secure and sustainable future for Trinidad and Tobago.

1.2.2. This vision is in harmony with the United Nations General Assembly (UNGA) adopted resolution 57/254 of December 2001, which is to put in place a United Nations Decade of Education for Sustainable Development (DESD), spanning from 2005 to 2014, with UNESCO designated to lead the DESD initiatives. The vision of the DESD is a world where everyone has the opportunity to benefit from quality education with a view to building a sustainable future.

1.3. PURPOSES

1.3.1. An integrated sector has the following purposes:

- a. To stimulate, direct and mobilise the human capacity for learning and create an enabling environment that provides equal opportunities and access for all citizens to acquire the knowledge, skills, capabilities and values required for self-fulfilment and career development.
- b. To address the development needs of sectors of the national economy and provide the labour market with the competencies and expertise required at all levels, in support of sustainable development and the building of a competitive, knowledge-driven economy.
- c. To facilitate and support stronger linkages between research, scholarship and teaching for the creation and dissemination of knowledge and knowledge-driven innovation that is dependent upon high-quality research and development in the area of new and emerging technologies.
- d. To contribute to the development of responsible and enlightened citizenship and civic engagement based on ethical awareness, critical thinking, reflection and commitment to the common good.
- e. To meet the education and training needs and aspirations of all citizens with the desire to learn throughout their lives by capturing and enhancing the creative and intellectual abilities of all persons for professional, vocational or recreational purposes

1.4. ROLE OF GOVERNMENT

1.4.1. The Government of the Republic of Trinidad and Tobago seeks to create a robust and efficient tertiary education and training sector that will provide lifelong learning opportunities in a variety of formal, non-formal and informal settings and through diverse delivery modes

which offer greater flexibility, particularly for adult learners. The core development indicators, as demonstrated in the developed economies of the world include:

- a. Holistic Development of Human Resources
- b. Economic Competitiveness
- c. High Productivity
- d. Efficient and Cost-Effective Use of Resources
- e. Quality Improvement
- f. Social Equity
- g. Accountability and Transparency in Use of Public Resources
- h. Broad Access to Education, Training and Employment Opportunities
- i. Lifelong Learning

1.4.2. The major roles of the Government in Tertiary Education, TVET and Lifelong Learning are:

- a. Policy Development and Review
The Government's commitment to the on-going process of policy development and policy review is essential. One of the best practice approaches to human capacity development is Government's provision of consistent and sustained policy direction and support over the long term, in order to achieve success.
- b. Strengthening the Operational Environment
In order to meet its objectives, it will also be necessary for Government to put in place mechanisms for effective coordination of the sector including legislation, funding, quality assurance and accountability systems required for the achievement of national tertiary education and training goals. The Ministry of Science, Technology and Tertiary Education must be properly organized to provide the necessary direction and leadership in this regard.
- c. Facilitating Stronger Public/Private Partnerships
In its approach to tertiary education, TVET and development, the Government is committed to forging and strengthening strategic partnerships with the private sector for the purpose of increasing participation and improving the quality of the outputs and outcomes of a diverse tertiary education and training system. Employers rely on this sector to produce highly-skilled, adaptable and innovative workers who can provide them with a competitive advantage. This requires a tertiary education and training sector that is dynamic and responsive to labour market signals, and sufficiently flexible to meet the demands of the country's social and economic development programme. In this context, Government recognizes the importance of the private sector in facilitating industrial attachments and in the implementation of work-based apprenticeships to improve workforce preparation

1.5. NEEDS AND CHALLENGES

1.5.1. Government is committed to diversification and modernization of the country's economic base by developing its current and emerging sectors. The Government is equally dedicated to the advancement of the citizenry and society, and to building a solid democratic foundation for civic participation, through an education and training system that is characterized by integrity, equity, participation, access, relevance and achievement.

1.5.2. The Framework for Sustainable Development is a catalyst for the introduction of much-needed reform of the sector. The key contributors to sustainable development are education and training, scientific research and innovation, and technological advancement. Given the present characteristics of the local tertiary education sector, attention to policy development and implementation are needed if the country is to develop the human resource capacity to effectively respond to social and economic development priorities. Policy design and implementation should be data-driven, comprehensive, guided by shared commitment to the country's vision, and should allow for adequate consultation and discourse among all stakeholders. Further, any strategy in education and training must take into account regional and global realities, in particular the emerging global economic order based on information and knowledge, facilitated by communication technologies. This policy takes cognizance of these realities such that it is benchmarked against international standards and best practice.

1.5.3. The magnitude of the country's investment in tertiary education and TVET over the past decade is significant (of the order of USD \$2 billion). This level of investment reflects a need for a better-skilled and qualified workforce, as the country experienced major transformation in the areas of commerce and industrialization. Rationalization, expansion and integration of educational and training opportunities at all levels, have become necessary, given the society's demand for broad-based and highly-specialised education and training.

1.5.4. As a result of the growing participation in tertiary education (TE), the country has reported significant increases in the local tertiary education participation rate within recent years, from approximately 7% in 2001, to 15% in 2004 and 40% in 2008. The dramatic increase in TE enrolment is, in large measure, a result of the introduction of the Dollar-for-Dollar Programme in 2001 and the Government Assistance for Tuition Expenses (GATE) programme in 2004. Government's present commitment to expanding the GATE programme to include technical and vocational education and training (TVET), entrepreneurial development and research is based on the objective of steadily increasing access to tertiary education so as to achieve a participation rate of 60%.

1.5.5. Government is cognizant of the challenges ahead in its quest to achieve this target. This Ministry has taken account of the critical changes occurring in the post-secondary and tertiary education sector, and in accordance with Government's commitment to responsible governance and sustainable development, has consulted with, and taken the views of a wide cross-section of persons in the sector. Some of the key areas of concern are:

- a. The persistent mismatch between the output of the education and training sector and the needs of an increasingly technologically-oriented economy in terms of the relevance, quality and quantity of skilled human resources;

- b. A plethora of qualifications bearing a variety of titles being offered on completion of programmes of varying duration, structure and content. The wide variations among these programmes, offerings and the awards of different institutions have created confusion in the minds of the public, the business sector and industry. This has made it difficult to determine the credit value of some programmes or to define any clear progression route from one level of qualification to the next;
- c. Duplication and overlap in government programmes, institutional programmes and service provision continue;
- d. Governance at the sector level is still characterized by fragmentation, weak co-ordination and systemic planning, and institutional level governance and management. There is urgent need for reform, capacity-building and human resource development, particularly in areas of educational leadership and administration;
- e. Weak foundational skills (especially literacy, numeracy, communication and life skills) at all levels of the education system and the impact this has on the ability of individuals to successfully transition from secondary to post-secondary and tertiary education, or to enter into the workforce;
- f. Untrained and/or under-qualified administrators and teachers at the tertiary education and training level. A similar situation of untrained and/or under-qualified administrators and instructors exists in the TVET sector;
- g. Gender disparity among students and staff, in various fields within the tertiary and TVET environment;
- h. Weak systems of accountability for educational outcomes;
- i. Limited use of high-quality but less labour-intensive teaching and learning strategies, including distance education and resource-based learning.

1.6. TRANSFORMING THE SECTOR

1.6.1. The Government's approach to the transformation of the education and training sector is one that encourages all relevant stakeholders to be active participants in the processes concerned with sectoral planning and development. The Government's philosophy is, therefore, one which embraces diversity, provides for equity and inclusion, encourages social participation, establishes civic responsibility and sustains democracy and social development.

1.6.2. The Ministry's policy for the development of tertiary education, TVET and lifelong learning is to ensure that the systems, structures and mechanisms are coherent, properly regulated and well-governed to create all the necessary linkages for the establishment of a seamless education and training system. This system would take into account the policies and goals of early childhood, primary and secondary education, as well as those which facilitate social, economic, industrial and sectoral development. This policy seeks to establish integrity, relevance, quality, access, accountability and performance as hallmarks of the educational system to ensure that social and economic needs are met, and fulfil the expectations of a nation that is in transition to a competitive, knowledge-driven and sustainable society.

1.6.3. To achieve this, the Ministry's priorities will be:

- a. The rationalization and harmonization of tertiary education, TVET and lifelong learning to achieve seamlessness through the development of a National Qualifications Framework (NQF);
- b. Curriculum reform to increase relevance, to improve quality and to facilitate the development of a common sense of citizenship and the mainstreaming of gender issues in curriculum planning and implementation;
- c. The strengthening of sectoral and institutional governance for greater effectiveness and efficiency;
- d. Reform of the framework for funding to establish a more purposeful link between education and training activities and national and regional development needs, while increasing participation rates and ensuring quality, accountability, transparency and sustainability;
- e. Capacity-building and human resource development with a focus on teaching, research, educational leadership and performance-based management to ensure the efficient and cost-effective functioning of the expanded and transformed tertiary education system.

1.7. PRINCIPLES

1.7.1. The Ministry embraces UNESCO's five pillars of Education for Sustainable Development (ESD) which are the following:

- Learning to know - Learning to seek and acquire knowledge, values and skills throughout life that are relevant to national development needs and priorities and responsive to regional and global issues.
- Learning to be - Developing one's personality, self-identity, self-knowledge and self-fulfilment to be able to act with greater autonomy, judgement and personal responsibility for personal and family well-being.
- Learning to live together - Developing the disposition and ability to tolerate, respect, welcome, embrace and celebrate difference and diversity and to participate and co-operate with others in increasingly pluralistic and multi-cultural societies.
- Learning to do - Acquiring the knowledge, values and skills for active engagement in productive employment, community service and recreation.
- Learning to transform oneself and society - Developing the ability and will to integrate sustainable lifestyles for oneself and others and to promote behaviours and practices that minimise our ecological footprint on the world around us.

1.7.2. In light of these guiding principles and, consistent with the Framework for Sustainable Development, the Ministry regards the following goals as fundamental to guide the process of transformation of the tertiary education sector in an inclusive and democratic society.

1.8. GOALS

1.8.1. The following goals identify key targets and outcomes that will be pursued in implementing the transformation strategy:

- a. To facilitate greater horizontal and vertical mobility by developing a National Qualifications Framework (NQF) which incorporates articulation routes as well as flexible entry and exit points.
- b. To improve the quality of teaching and learning throughout the system and, in particular, to ensure that curricula are relevant and responsive to the national and regional contexts.
- c. To accelerate the development of a flexible learning system, including distance education and resource-based learning based on open learning principles.
- d. To support the development of a high-level research capacity through a system that balances open-ended intellectual inquiry with sustained application of research activities to technological improvement, social development, entrepreneurship and innovation.
- e. To produce graduates with the general education skills and competencies serving as the foundations for lifelong learning, including critical, analytical, problem-solving and communications skills, as well as the ability to contribute to community-based development and nation-building.
- f. To promote and develop social responsibility and awareness of sustainability issues among students, in order to prepare them to participate more actively in social and economic development through community service programmes.
- g. To develop capacity-building initiatives and promote sustainable human resource development through programmes that are responsive to the social, economic and cultural needs of the society and which establish high standards of academic scholarship and professional training.
- h. To ensure transparent and cost-effective management aimed at optimal use of resources throughout the sector.
- i. To establish a comprehensive and centralized data-driven system of performance monitoring (based on qualitative and quantitative performance indicators) in order to assess institutional effectiveness and encourage and reward institutional improvement.

Structure and Growth

2.1. INTRODUCTION

Policy Goal

The development of a tertiary education and TVET system that:

- is aligned to the national framework for sustainable development;
- guarantees equal opportunity and access for all citizens to high-quality, relevant and culturally appropriate education and training;
- stimulates and channels the intellectual and creative capacity of our citizens towards the development of a knowledge-oriented and technologically advanced society.

2.1.1. The need for diversification of the economy away from dependence on depleting hydrocarbon resources, facilitated by education and training, is very important. Human capital output at the tertiary education level has been identified as a major contributor to economic growth and to sustainable development and education. Tertiary education is a means of realizing the fifth pillar for sustainable development: *A more diversified, knowledge-intensive economy: building on the native genius of our People.*

2.1.2. The Government is committed to attaining this overarching philosophy. The strategy for the development of this sector is shaped by the vision of having a system that guarantees equal opportunity and access for all citizens to high-quality, relevant and culturally appropriate education and training that stimulates and channels the intellectual and creative capacity of our citizens, towards the development of a knowledge-oriented and technologically-advanced society.

2.1.3. The Government sees the need for the advancement of tertiary education, technical and vocational education and training (TVET) and lifelong learning through the development of a coherent, effective and integrated sector that provides multiple pathways for all citizens to navigate successfully through a seamless education and training system.

2.1.4. Emphasis will be placed on practice as well as theory, and tertiary institutions will be encouraged to strengthen their curricula through internships, apprenticeships, service learning and other forms of out-of-classroom experiences.

2.2. THE STRUCTURE OF THE EDUCATION SYSTEM

2.2.1. The education system is governed by two Ministries: The Ministry of Education and The Ministry of Science, Technology and Tertiary Education. Currently, there is a degree of overlap in the jurisdiction of both Ministries.

2.2.2. The Ministry of Education

The levels of the education system in T&T which fall under the purview of the Ministry of Education include:

Figure 1: Educational Levels under the Jurisdiction of the Ministry of Education

Educational Level	Age
Pre-Primary	Birth to 4 Years Old
Primary	5 to 10 Years Old
Secondary	11 to 16 Years Old
Advanced Proficiency	17 to 19 Years Old

Education is compulsory for children up to age 12, although, with a minimum age for employment of 16, tradition holds that most of the nation's youth, up to age 15, are enrolled in the school system. Available data indicate a high participation rate¹ of 86.91%² in the 5-12 age group, 77.89% for ages 13-15 and 74.15% for 13-16 year olds.

In 2009, there were 474 public primary schools and 133 public secondary schools. The total primary school population is 197,500.

At the secondary level, the curriculum embraces both academic and technical-vocational offerings. Secondary schooling for most students culminates in the Caribbean Examinations Council (CXC), Caribbean Secondary Education Certificate (CSEC), for academic and some technical vocational subjects. Since 2007, CXC also certifies the Caribbean Vocational Qualifications (CVQ) in-school programme pursued by students at Forms IV and V. Advanced Level ('A' Level) and the regional equivalent, the Caribbean Advanced Proficiency Examinations (CAPE) classes are also conducted in secondary schools.

2.2.3. The Ministry of Science, Technology and Tertiary Education

The Ministry of Science, Technology and Tertiary Education, as its name implies, is responsible for science, technology and tertiary education, as well as technical and vocation education and training.

In Trinidad and Tobago, successful completion of secondary school currently means achieving Grades I, II or III, in the Caribbean Secondary Education Certificate (CSEC) or its equivalent in five subjects, inclusive of Mathematics and English. For the purpose of international reporting, 'A' levels and CAPE may be considered to be tertiary education, as is the practice in several countries in the Region such as Barbados, St. Lucia and Dominica. Successful candidates are often granted advanced standing in degree programmes comparable to the Advanced Placement examinations offered by the College Board in the United States of America.

1. Participation, as determined by the net enrolment ratio: students of the age group for a given level as a percentage of the total population in that age group.

2. Based on Enumerated Population Data by Age Group provided by the Central Statistical Office for year 2000, adjusted by factors derived from the total population and by Sprague multipliers for single age totals.

Allowance must be made for underreporting, as the response of private schools to data requests was poor.

2.2.4. Categories and Levels of Tertiary Education

Tertiary education can be divided into two levels: non-university and university. The non-university level refers to programmes that lead to the award of sub-bachelor's qualifications such as the associate degree or technical and vocational education and training equivalent (TVET). University level refers to programmes that lead to the award of baccalaureate³ and postgraduate qualifications by institutions which also engage in research that maintains, advances, disseminates and assists in the application of knowledge. Consequently, as is the case with OECD countries, the Government agrees that the tertiary education system in Trinidad and Tobago consists of programmes offered by educational institutions that fall into one of three levels, as shown below.

i.	Sub-baccalaureate programmes such as certificates, diplomas and associate degrees or TVET equivalent
ii.	Bachelor's degree programmes
iii.	Post graduate certificates, diplomas, master and doctoral degree programmes

2.2.5. Many sub-baccalaureate programmes are designed to be both terminal and articulated to higher levels, so that associate degrees, for example, are in many cases effectively the first two years of a four-year bachelor's degree and can be considered to be in the class of the latter.

2.3. TECHNICAL VOCATIONAL EDUCATION AND TRAINING

2.3.1. In Trinidad and Tobago, TVET has evolved over a period of more than 100 years, commencing with the establishment of the Board of Industrial Training (BIT) in 1906, followed in the post-independence era by the National Training Board (NTB) in 1970, and the National Training Agency (NTA) in 1999.

2.3.2. NTA was established to serve as the single national training agency with full responsibility for planning, coordinating and administering the national training system for TVET. The functions of the BIT and the NTB were absorbed into those of NTA.

2.3.3. NTA's role in education and training is to ensure that Trinidad and Tobago has a workforce that is certified, competent, innovative, enterprising and entrepreneurial, and capable of contributing to the continued development of Trinidad and Tobago.

2.3.4. The objectives of the NTA are to coordinate and regulate the TVET system through the establishment, promotion and maintenance of national occupational standards, quality assurance mechanisms, standardized curricula and instructional design, and a qualifications framework which supports the establishment of an awarding body for Trinidad and Tobago National Vocational Qualifications (TTNVQs) and Caribbean Vocational Qualifications (CVQs).

3. In this document, the term baccalaureate is used to denote qualifications at the bachelor's level.

2.3.5. NTA's strategic direction is informed by global and regional realities, in particular, the emerging global economic order which is driven by information management and knowledge capacity. This new world order demands rapidly changing skill sets and much higher levels of education and training to satisfy the more stringent requirements of the world of work.

2.3.6. The NTA's goals are, therefore, aligned to those of the Government and to policy recommendations of international conventions to which Trinidad and Tobago is a signatory. These include:

- ILO Recommendation No 195 which speaks to:
 - human resources development (2004), especially as regards the involvement and participation of the social partners in identifying, promoting and recognizing competencies as a means of facilitating education, training, lifelong learning and employability through policy measures aimed at creating decent jobs and achieving sustainable economic and social development;
 - the concept of decent work, coined by the ILO, which summarizes and encapsulates the aspirations of individuals concerning their working life;
- the Millennium Development Goals, especially that of developing a global partnership for development, and emphasising the design and implementation of strategies to give (young) people decent and productive work;
- the Global Compact, especially where it refers to human rights and working conditions;
- ISO standards in the 9000, 14000 and 18000 series, in which human resources are considered a key factor in quality management and security.

2.3.7. At the regional level, the establishment of the CARICOM Single Market and Economy (CSME) is a regional response to the challenges of the world economy. The CSME provides a framework that facilitates regional co-operation for developing an adequate Workforce Development System (WDS) through the establishment of a regional strategy for TVET. This has resulted in the standardization and harmonization of all systems and processes regarding TVET in the region leading to the award of the competency-based qualification — the CVQ.

2.3.8. In order to achieve these goals, the following strategies will be pursued:

- a. Promoting and marketing of TVET as a viable alternative to the more traditional modes of education and advancement.
- b. Developing, implementing and maintaining a National Technical and Vocational Education and Training (TVET) Plan.
- c. Aligning all programmes to the TVET policy/plans which support the developmental goals of the Government of Trinidad and Tobago.
- d. Ensuring that all TVET providers meet the quality assurance requirements of the NTA and seek registration and approval to operate and offer certification.
- e. Facilitating youth employment and the transition from school to work. The core element of action here is seamless education, through the integration of the basic education

system, technical education, certified vocational training, dual training, apprenticeship in enterprises and labour insertion for young people. Emphasis will be placed on the articulation of vocational training with basic education and labour policies.

- f. Promoting lifelong learning for employability and citizenship. This will involve work in the area of training in the enterprise, including small enterprises as well as cooperative enterprises, and the use of national qualifications frameworks and training and certification in labour competencies to facilitate ongoing training for employed and unemployed workers, and to respond to demands and opportunities in the labour market.
- g. Using new information and communication technology in vocational training. NTA will intensify information sharing about innovations in the use of ICTs, such as institutional websites, virtual classrooms, training via Internet or via mobile phone. This would reach a wider target audience of workers and making training and development of worker competencies more flexible and decentralized.
- h. Developing new curricula and pedagogic innovations. Updated information will be provided on innovative experiences regarding the introduction of new key aspects in curricular programmes, such as new didactic strategies that promote knowledge management at innovative training environments, entrepreneurship development, productivity and training in health and safety at work, labour rights, and pedagogic aspects of curricular design and teacher training.
- i. Training for the employability of vulnerable groups in the informal, domestic and rural economy. NTA will examine the need to modify educational and training systems to facilitate access to decent jobs in the formal economy – including enterprise development – for social groups with low levels of education and limited opportunities to access formal vocational training programmes for gender, geographical, social, special needs and other reasons.
- j. Including social dialogue in vocational training. NTA will continue to partner with its stakeholders to enable dialogue and critical thinking that will facilitate the transformation of TVET in Trinidad and Tobago.
- k. Contributing to integration and creating regional qualifications frameworks. NTA will continue to address the need to achieve progressively greater coordination among national training agencies and to develop competency-based certification programmes and mechanisms that have regional or sub-regional validity.
- l. Establishing and maintaining a National TVET System to harmonize, standardize, monitor and evaluate all formal and non-formal national training efforts in TVET. This will include development of a national TVET information system, linking all aspects of training and certification, inclusive of all TVET providers and graduates.
- m. Instituting a more effective quality assurance system for TVET based on a CARICOM - approved-process for workforce training, assessment and certification. This will include registration of all training providers.
- n. Implementing a more extensive, national programme of inclusion, using a system of PLAR (Prior Learning Assessment and Recognition) to assess and certify informal and non-formal competencies through Skills Assessment Centers.

2.4. NATIONAL APPRENTICESHIP SYSTEM

2.4.1. A national apprenticeship system will be established, premised on the enduring utilitarian philosophy that emphasizes the importance of work to the education, training and socialization of the nation's workforce. This system will re-affirm the importance of industry as an authentic place of learning and vocational training, where learning is facilitated through observation, imitation, practice and interaction with experienced practitioners. The Ministry recognizes, however, that the implementation of a national apprenticeship system will require significant inputs in respect of resources, legislation, time, money and people as well as a synergy of efforts among all stakeholders.

Level 5	Chartered and Advanced Professional (e.g. Chartered engineers, accountants)
Level 4	Professional (e.g. Degree)
Level 3	Technician (e.g. Air conditioning and refrigeration, mechanical engineering technicians)
Level 2	Skilled (e.g. Electrical installation craft, plumbing craft)
Level 1	Semi-skilled (e.g. Masonry, carpentry, welding)

Figure 3: Categories and Levels of Technical Vocational Education and Training

2.5. CURRICULUM REFORM

2.5.1. Relevance to National Development Goals

Institutions offering tertiary level and technical vocational education and training must meet established standards. However, there is wide variation in curriculum offerings and there is no mechanism for ensuring alignment to national goals for development. Curriculum reform is, therefore, necessary to ensure standardization, harmonization and rationalization of courses and programmes, particularly in the area of TVET. This will lead to a more seamless system of education and training, greater efficiency in management, cost effectiveness and a better understanding by all stakeholders of the respective qualifications and competencies. Greater emphasis will be placed on ensuring that the skills of graduates are appropriate to the changing needs of employers in the private and public sectors, by matching labour market studies to programmes of study. This will be effected, in part, by the adoption of a competency-based approach to training in keeping with national, regional and international occupational standards.

2.5.2. Relevance of Curricula to the Workplace

As the country positions itself within the CARICOM Single Market and Economy and other international markets, Government's policies and funding strategies will consider the regional and, to some extent, international labour requirements and needs for development of the national human resource base.

2.5.3. Efforts to make the country a leading, knowledge-based economy demand new curriculum approaches that encourage innovation, creativity and adaptability in workers through

the adoption and adaptation of international models and best practices in competency-based development and lifelong learning. This requires reconsideration of the conventional 'teaching-learning model' and the gradual introduction of curriculum design approaches and innovations that move from input-based to outcomes-based education and training. The adoption of these new approaches and ideologies will:

- a. Replace irrelevant curricula within the sector that do not facilitate sustainable and reliable employment for the citizenry;
- b. Affirm the importance of a general education which provides tertiary levels graduates with broad exposure to a wide range of knowledge and competencies aimed at equipping them with critical-thinking, innovative, entrepreneurial and problem-solving competencies for full participation in a knowledge economy and the ability to adapt to a rapidly changing world;
- c. Harmonize and/or integrate curricula offered within academic, technical-vocational and non-formal education areas, so that learning outcomes are consistent at comparable levels;
- d. Empower educators and trainers to use relevant, modern tools and methods to facilitate both face-to-face and asynchronous learning; and
- e. Encourage competency development in learners to meet civic, social and economic priorities within communities and the nation as a whole.

2.5.4. Emphasis will be placed on Government/education/industry partnerships for curriculum planning, the design of curricula with competency-based outcomes, the establishment of work-based learning programmes for industry and commerce, the re-design and recognition of lifelong learning programmes, and the facilitation of networked infrastructures for e-learning.

2.6. EMPHASIS ON SCIENCE AND TECHNOLOGY

2.6.1. Compared to developed countries, Trinidad and Tobago's investment in science and technology, at less than 1% of GDP, is very low, and science and technology achievement at secondary and tertiary levels is below international benchmarks.

2.6.2. At the institutional level, some inroads have been made to adding value to education in science, technology, research and development through emphasis on applied science and relevant research. Local research capability needs the fostering of greater public-private sector partnerships to problem-solve, provide advice on technology usage and innovate on new processes and products. Much greater emphasis still needs to be placed on strengthening the country's science, technology and innovation (STI) capabilities, given the critical role which STI plays in the achievement of sustainable economic development.

2.6.3. Policy formulation in this area targets curriculum reform at all levels of the education system with an emphasis on science, technology and, most importantly, innovation, the development of problem solving skills, and entrepreneurship. The Tertiary Education and TVET policy supports Government's commitment to science, technology and innovation, recognising that an internationally competitive work force must show outstanding skills in the following:

- a. Management geared to developing and enhancing management and marketing skills to drive the development of internationally competitive businesses;
- b. Technology: the assimilation, utilisation, adaptation, research and development of key technologies for enhancing competitiveness;
- c. Innovation: the ability to transform new technologies into commercial solutions that meet market needs; and
- d. Entrepreneurship: adding greater value to existing products and services, and, very importantly, to innovation.

2.6.4. Trinidad and Tobago intends to move urgently towards establishing a sound and flexible national innovation system to create a workforce capable of undertaking research, development and innovation to positively impact on its economic competitiveness. This new system will facilitate collaboration and the sharing of resources among industry, tertiary education and training institutions, quality and regulatory institutions, and other stakeholders in the process.

2.7. EQUITY AND ACCESS

2.7.1. Commitment to improving social equity and tertiary education access for all citizens is an integral aspect of the new policy framework. Two strategies which will be implemented to achieve these goals are distance education and the promotion of inclusion as a guiding principle in education.

2.7.2. Distance Education

The country's tertiary education system is still, by and large, characterized by traditional delivery systems, serving a traditional student population, in respect of both times and facilities for programme delivery. Worldwide, however, the growth in tertiary education participation has been strongest among non-traditional students, for example, working adults, women re-entering the job market, and graduates focusing on re-skilling for career change or enhancement.

2.7.3. It is, therefore, not surprising that distance education delivery capacity is one of the key strategic investments that future-oriented colleges and universities are making to respond to increased demand for access. *Distance education* is, therefore, an integral part of the country's strategy for human resource development, in terms of both local and international programmes, given the limited range of locally-designed and developed programmes that relate to the country's socio-economic development needs; the inability of TLIs to meet current demand; and the need to create alternate routes to formal and lifelong education for citizens who cannot easily access tertiary education via traditional delivery modes.

2.7.4. Research into the development of strong and effective distance education systems has underscored the need for Government to provide an enabling policy framework, particularly as it relates to academic support services, assessment of learning, connectivity costs and programme accreditation issues. Investment in infrastructure is also of paramount importance to the success of distance education as a mode of delivery.

2.7.5. Inclusion

Issues of gender awareness and sensitivity and support for the differently-abled are key aspects of Government's broader commitment of widening access.

Gender: In the quest for sustainable growth and development, the issue of the continuing under-representation of females in the technical-vocational programme areas, in spite of their growing ascendancy in mathematics and the natural sciences, must be addressed. A related issue is the trend of under-representation and underachievement of males at almost all levels of the educational system.

Persons with Disabilities: The development of our human capital requires that our perspective on access be broadened to include support for the differently-abled, so that each individual can develop to his/her fullest potential, in order to fulfil individual goals and contribute to the economic, social and cultural development of the society.

2.8. THE CONCEPT OF SEAMLESSNESS

2.8.1. The Ministries of Education, and Science, Technology and Tertiary Education will intensify collaboration on the development of a coherent and seamless tertiary education and training system, comprising both public and private institutions.

2.8.2. A seamless education and training system will facilitate student mobility between sectors/levels, including mobility between the TVET sector and other general disciplines.

2.8.3. Such seamlessness will not compromise each sector's distinct nature and character. The system is being designed to eliminate all physical, social and environmental barriers to access educational opportunities for all persons with the desire and capacity to learn, regardless of gender, ethnicity, religion, or special education needs.

2.8.4. It will promote diversification of the access, curriculum and qualification structure, with programmes developed and articulated within the National Qualifications Framework (NQF), thus encouraging an open and flexible system based on credit accumulation and multiple entry and exit points for learners.

2.8.5. It will improve the responsiveness of the higher education system to present and future social and economic needs, including labour market trends and opportunities, the new relationship between education and work and, in particular, the curricular and methodological changes that flow from the information revolution, the implications for knowledge production and the types of skills and capabilities required to apply or develop the new technologies.

2.8.6. In order to establish this seamless education and training system, a National Education and Training Plan will be developed to facilitate setting objectives and implementing targets that will be monitored, evaluated and revised annually, as necessary.

2.8.7. It will include academic, research and infrastructural development and provide the framework within which institutional plans will be established. Approval of institutional plans will lead to the efficient allocation of funding for students entering approved programmes based on the priority sectors identified through labour market information. Thus, there will be a closer fit among institutional plans, national policy, and sector growth, consistent with institutional mission and capacity.

Governance and Management of the System

Policy Goal

The strengthening of institutional and system capacity for effective governance, management and coordination of tertiary education and TVET at both the sector and institutional levels, to secure sustainable growth and development, including the improvement of quality and enhancement of research capacity to facilitate data-driven strategic planning, policy formulation and impact evaluation, as well as greater accountability.

3.1. THE STATE OF GOVERNANCE AND MANAGEMENT

3.1.1. The Report of the Education Task Force Post-Secondary Sub-committee (October, 1992) described the tertiary education sector as “unstructured, uncoordinated and lacking an operational framework that can facilitate horizontal and vertical articulation”. Since that time, the tertiary education sector has witnessed significant growth in the number of institutions established to manage, provide quality assurance, and deliver tertiary education and technical-vocational education and training (TVET) programmes and services. The Ministry of Science, Technology and Tertiary Education was established in 2001, the National Training Agency in 1999, and the Accreditation Council of Trinidad and Tobago in 2004, while the number of tertiary education providers, from university-level to single-purpose technical institutes, has grown exponentially over the last decade, reaching a total of 86 registered institutions in 2010.

3.1.2. There has been major progress in the introduction of sector-level and institutional policies, programmes and services to expand access to, and improve the quality and relevance of, tertiary education and TVET in Trinidad and Tobago. Yet, in spite of, or perhaps because of this phenomenal growth in tertiary education provision, there is still a pressing need for more effective governance, coordination and management of the tertiary education sector, if it is to achieve its objectives within the national development landscape.

3.1.3. Similarly, TVET programmes are provided by the private sector, NGOs, and several government agencies. This has led to a proliferation and duplication of training programmes, technical and vocational education courses, and skill preparation activities, along with the associated certificates, diplomas, and miscellaneous qualifications, which have been offered by Ministries and Ministry-led programmes, other public institutions and private institutions. Many occupational areas and disciplines are involved and all levels are currently affected, from labourers to craftsmen to paraprofessionals. This has translated into various levels of qualification and certification types. There is need for rationalization, harmonization and coordination of the sector to ensure the development of TVET on a national and, eventually, a regional scale.

3.2. TOWARDS A NEW MODEL OF GOVERNANCE

3.2.1. The Government's Framework for Sustainable Development, which provides the overall policy direction for the country's development strategy, speaks to the role of good governance in enhancing democracy, by strengthening existing institutions and by establishing new institutions or appropriate infrastructure to support accountability, transparency, consultation, participation and consensus-building and more meaningful representation. The new model of governance for tertiary education takes its cue from this framework and seeks to integrate the fragmented components of the tertiary sector into a single, well coordinated system, in which the roles and importance of various levels and types of programmes, institutions, and support organizations are clarified, affirmed and supported, relative to national development goals.

3.2.2. The rationalization and development of the Tertiary Education and Technical and Vocational Education and Training (TETVET) sector will also take cognizance of regional and international agreements to which the Government is signatory, and will facilitate the implementation of measures designed to advance regional integration such as the free movement of skilled labour under the CSME and international agreements, as they impact on local systems.

3.3. GOALS OF SYSTEM GOVERNANCE

3.3.1. There can be no meaningful change in the governance of the sector unless it is understood that system governance extends to governance practices within the institutions that comprise the tertiary education system and TVET. Effective governance at system and institutional levels will promote rationalization and harmonization of the tertiary education system; alignment and relevance of educational outputs to social and economic development goals; quality and access in educational provision; equity and transparency in decision-making; efficiency in the allocation and use of resources, accountability for performance targets, and production and use of information to achieve continuous quality improvement.

3.3.2. Several initiatives are critical to achieving these outcomes. Primary among these are:

- a. rethinking of the structural arrangements for the governance and management of the sector;
- b. an enabling legislative framework to empower the MSTTE and other related agencies to implement, monitor and enforce policy prescriptions;
- c. capacity building at the system and institutional levels in tertiary education management and administration; and
- d. the development of strategies to significantly expand research capabilities by and for the TETVET sector.

3.4. SYSTEM INTEGRATION, COORDINATION AND MANAGEMENT

3.4.1. Governance and management structures can serve to change or to reinforce organizational and cultural behaviours. In this regard, the current fragmentation of the TETVET sector has its genesis in the history of educational development in Trinidad and Tobago and the wider Caribbean. Today, the sector retains traces of the earlier colonial model of higher education which valorized only university-based education as a major contributor to human capital development. The 21st century calls for a different vision of tertiary education: one which can meet the demands of a knowledge economy, while catering for an increasingly diverse student population; one which supports post-graduate studies and research as drivers of innovation and economic competitiveness, while recognizing the importance of technical-vocational education and training, post-secondary education and sub-baccalaureate education as key to creating opportunities for our citizens to achieve social and occupational mobility through workforce education; and, most importantly, one which breaks down the educational silos that have militated against the creation of a seamless national education and training system, from early childhood to university, for far too long.

3.4.2. A consequence of the tendency of national tertiary level and TVET institutions to operate in educational silos is a lack of standardization in the unit of academic currency and of clarity and transparency in respect of curriculum standards. This creates enormous challenges in respect of vertical and horizontal articulation opportunities for students within the formal and non-formal delivery systems and has resulted in the virtual absence of a common basis for transfers from one institution to another.

3.4.3. Without a well-integrated system that facilitates vertical and horizontal articulation among providers, the cost of producing graduates at various levels of the system increases, as time-to-degree completion is extended to accommodate the many torturous matriculation and equivalence recognition requirements that are instituted to compensate for a national qualifications framework, quality assurance mechanisms, and a seamless system based on articulation agreements.

3.4.4. Trinidad and Tobago has begun to lay the foundation for a seamless education system through:

- a. collaborative work between the Ministry of Science, Technology and Tertiary Education and the Ministry of Education in the formulation of a policy on seamless education and training;
- b. the development of a National Qualifications Framework which promotes a shared understanding among stakeholders of the characteristics of different types of institutions, levels, programmes, and credits; and
- c. the implementation of a standardized approach to a common unit of academic currency which will facilitate articulation and transfer among institutions and portability and accumulation of credits.

3.4.5. To enhance the impact of a seamless education system on national development, linkages will also be established with state agencies and non-governmental organizations charged with responsibility for economic development and competitiveness, and innovation and entrepreneurship. In this way, the governance of the tertiary education sector will invite and accommodate inputs from key stakeholders within and outside of the education system.

3.5. STAKEHOLDERS IN SYSTEM INTEGRATION AND COORDINATION

3.5.1. In general, the sector comprises a variety of stakeholders, including Government agencies with responsibility for management and funding of tertiary education and TVET programmes; regulatory bodies, such as NTA and ACTT, charged with quality assurance and accreditation of education and training programmes; employer representative bodies; non-Governmental organizations (NGOs) concerned with education and training; regional and international donor agencies and support/liaison organizations; professional associations concerned with occupational standards and licensure requirements, or work and employment conditions; and beneficiaries of the system, such as students and employers.

3.5.2. There is a need to clarify the roles of the various stakeholders in the tertiary education sector. In a small state setting, such as is the case in Trinidad and Tobago, this is especially important in order to prevent duplication of effort, conflicts of interest, and wastage of scarce resources. Critical analysis and clarification of roles will enable the various actors in the sector to identify and play to their strengths, thereby improving system performance and productivity.

3.5.3. Role of the Ministry of Science, Technology and Tertiary Education

The MSTTE Strategic Plan outlines a new vision for the Ministry as *“a responsive and research-driven organization, optimally resourced with the capacity and intelligence systems to satisfy the needs of all stakeholders, provide seamless human development and achieve national aspirations⁴.”* As the state agency which has ultimate oversight for the growth, development and management of the TETVET sector, the Ministry plays a key role in ensuring effective coordination of the activities of all stakeholder groups, and in monitoring and evaluating activities and outcomes. In this regard, the MSTTE will play a strategic and catalytic role in the transformation of the tertiary education and TVET sector and will focus on:

- a. the rationalization and harmonization of the national TETVET system;
- b. the establishment of targets and performance expectations for the system;
- c. the development of funding strategies and formulae;
- d. the provision of oversight to statutory boards and other bodies charged with the regulation and/or delivery of technical, vocational, postsecondary and tertiary level education and training programmes;
- e. the monitoring of cost effectiveness and efficiency in the use of public funds for tertiary education and TVET development, including financial aid;

4. MSTTE Strategic Planning Final Report, 2006

- f. the monitoring of institutional effectiveness as a basis for the provision of funding/ budgetary allocations;
- g. the conduct of sector research to inform planning, policy formulation and review;
- h. the formulation of policy and the development and implementation of related sector-level initiatives and projects, including financial and technology-based projects, designed to enhance citizens' access to tertiary education programmes;
- i. the facilitation of public/private partnerships for the development of tertiary education and TVET; and
- j. the facilitation/establishment of technical cooperation agreements and linkages with Governments and international agencies to advance and support the Ministry's mandate.

To effectively discharge these responsibilities, the MSTTE must be able to draw on the expertise of professionals with knowledge and experience in tertiary education and TVET administration and management, which are specialized areas in their own right. In the medium to long-term, the TETVET policy framework will prioritize capacity-building in this area, especially for staff of the Ministry. It will also complement ministerial resources by harnessing the deep pool of knowledge and experience of senior education and training practitioners and specialists through the establishment of a National Commission for Higher Education.

3.5.4. The National Commission for Higher Education

- a. It is envisioned that effective governance of the national education system will be enhanced by the establishment of a National Commission for Higher Education whose membership will comprise representatives of various levels of the education system. This broad-based representation will ensure that planning for tertiary education development and transformation, and policy formulation, implementation and review, take cognizance of all elements and activities within the national education system, including early childhood, primary, secondary, post-secondary, TVET, sub-baccalaureate, and tertiary. In addition, the Commission's membership should include representatives from Government, tertiary education institutions (including private TIs), commercial and industrial entities, and professional organizations.
- b. Given the critical role played by tertiary education, TVET and STI in human capital development and the creation of a knowledge economy, the National Commission for Higher Education will also establish linkages with the proposed Economic Development Board and Council for Competitiveness and Innovation in order to ensure that STI is emphasized in the curriculum and that the tertiary education and TVET system supports the country's strategies for socio-economic growth, development and competitiveness.
- c. Responsibility for rationalization, planning and policy formulation for the short, medium and long-term development of tertiary education, and technical and vocational education and training (TVET) may be assigned to separate Sub-committees of the National Commission for Higher Education or to distinctive and independent Councils

with linkages to it. In either circumstance, the governance arrangements for the management of tertiary education and TVET must conduce to integration, articulation and seamlessness.

- d. The National Commission for Higher Education will provide advice to the Government in the following areas:
- i. Educational planning and policy formulation to support the development of a seamless education system from early childhood to university level.
 - ii. Strategic planning and policy formulation for the tertiary education and TVET system.
 - iii. The conduct of relevant research to inform tertiary education and TVET development.
 - iv. Types and levels of tertiary education and TVET institutions within the system.
 - v. Inter-relationship between the various agencies and institutions in the sector.
 - vi. Determination of programme mix (aligned to national developmental priorities) to be offered by tertiary and TVET institutions.
 - vii. Governance of tertiary education and TVET institutions.
 - viii. The development of criteria for fee structures.
 - ix. Financing of tertiary education and TVET development, including financial aid.
 - x. Optimal resource allocation to support the achievement of the country's social and economic goals.

3.5.5. Quality Assurance Bodies

Prior to the establishment of the ACTT, there was little or no regulation, by the State, of operational standards in tertiary level institutions, and TLIs could define themselves as Community Colleges or Universities without reference to international practice and standards. The ACTT is now responsible for the registration of TLIs and the conferment of title and it has been substantially successful in ensuring compliance with minimum quality standards by both public and private tertiary education providers. The National Training Agency is engaged in a similar exercise with TVET providers and recently signed a Memorandum of Agreement with ACTT to formally recognize its quality oversight responsibility for technical-vocational education and training.

3.5.6. Employers

A major requirement for effective governance and management of the tertiary education system is the timely signalling of labour market demands and of the economy's absorptive capacity for tertiary education and TVET graduates. Employers, as beneficiaries of the outputs of the education system, also play a critical role in the identification of desired workplace knowledge and skills, and the evaluation of graduate competencies. Governance structures at both the institutional and system levels should facilitate a more proactive role for employers and employer representative bodies in identifying labour market needs to inform tertiary education and TVET planning and programme design and development.

3.5.7. Professional Bodies

In mature, higher education systems, professional associations play an important role in quality management, through their work in the development and promotion of discipline-based professional, technical and occupational standards. Within a small society like Trinidad and Tobago, only a limited number of professional bodies (for example, engineering, medicine, law, accountancy and nursing) have been able to play a similar role. While referencing international disciplinary and professional standards is a valid compensatory strategy, given the country's limited human resources, the engagement of more local professional bodies in oversight for professional practice is a key requirement for ensuring the relevance of curriculum content, and the maintenance and currency of post-graduation competencies. The MSTTE can play a strategic and facilitative role in strengthening this dimension of the development of the tertiary education and TVET system, through convening National Technical Advisory Committees in high priority disciplines, with a remit to develop professional/occupational standards where none now exist.

3.5.8. Student Councils

While students are among the key stakeholders of the tertiary education system, their involvement in educational planning and governance of tertiary level and TVET institutions in Trinidad and Tobago is, in general, limited. The policy direction of the Government calls for facilitation of youth involvement in decision-making bodies. In this regard, governance and management of tertiary education and TVET at both the system and institutional levels must accord more importance to student voice and involvement in decision-making.

3.6. A LEGISLATIVE FRAMEWORK

3.6.1. Tertiary education, like the other levels of the education system, requires its own guiding legislative framework for the proper management and development of the sector. The Education Act of 1980 does not provide the necessary framework for the governance and management of the tertiary education sector; legislation on the governance of TVET may require separate consideration. The listing below provides several reasons for the enactment of legislation that is specific to tertiary education and to TVET:

- a. To formalize the functions of the Ministry of Science, Technology and Tertiary Education. Comprehensive legislation would formally authorize the MSTTE to be the primary organization charged with leading human capital development through tertiary education and training, and executing programmes and initiatives to achieve this end.
- b. To grant regulation-making power to the Minister of STTE. This will create greater flexibility in the system, as regulations can be promulgated to allow for various operational procedures so that the relevant bodies will not have to continuously go back to Parliament when changes are required.
- c. To strengthen the policy framework. A number of issues in the Tertiary Education Policy require legislation, if the Policy is to be readily implemented. For example, proper definitions of tertiary education and TVET need to be established as the Education Act of 1980 makes no reference to either.

- d. To address the requirements for institutional registration, accreditation, and recognition of tertiary programmes that are not addressed under the Accreditation Act of 2004, such as:
- i. authority for the establishment of public tertiary education and TVET institutions;
 - ii. the establishment of a National Training Fund, including legislation to guide contributions by private companies;
 - iii. authority for the Minister or representative to visit and make enquiries of private education and training institutions;
 - iv. authority for the Ministry to ensure compliance with minimum institutional governance requirements;
 - v. the regulation-making power of the Minister; and
 - vi. the definition of a proper regulatory structure for funding and grants administration.

3.6.2. The Legal Context

The following represent existing laws that impact on the Tertiary Education and TVET policy which must be taken into account in the drafting of tertiary education legislation, and the development of strategies and programmes to implement the policy.

- The Accreditation Council of Trinidad and Tobago Act, 2004
- The Assisted Secondary School Teachers' Pensions (Amendment) Act, 2008
- The Caribbean Examinations Council (Privileges and Immunities) Act, 2006
- The College of Science, Technology and Applied Arts of Trinidad and Tobago Act, 77 of 2000
- The Education Act, Chapter 39:01
- The Intellectual Property (Miscellaneous Amendments) Act, 2000
- The National Institute of Higher Education (Research, Science and Technology) Act 20 of 1984
- The Students' Revolving Loan Fund (Amendment) Act, 2006
- The Teachers' Pensions (Amendment) Act, 2008
- The Teaching Service (Compensation) Act, 2008
- The University Students (Guarantee Fund) Act
- Industrial Training Act Cap 39:54
- The Nursing Act
- The Company's Act 1995, Sections 9; 309

3.7. RESEARCH AS A DRIVER OF EFFECTIVE SECTOR MANAGEMENT

3.7.1. Tertiary education and research are intimately connected. Universities are not only rated by their reputation as teaching institutions but, more so, by the quality of their research outputs. At the sector level, management of tertiary education now requires a research focus on institutional performance in order to strengthen the capacity for effective and efficient use of resources, and to create a sound platform for performance-based management.

3.7.2. State of Research Capacity

Research capacity has been, and remains, an area of weakness in national and institutional development. The inadequacy of available databases and the lack of a coordinated and focused approach to problem identification, data collection, analysis and wide dissemination of information mitigate against proper educational planning.

3.7.3. The Importance of a Research Agenda

Establishment of a tertiary education and TVET research agenda, and the building of capacity to develop critical information sources, are essential to drive decision making and policy design in tertiary education and TVET. In order to plan effectively, the MSTTE must be “*a responsive research and results driven organisation, optimally resourced with the capacity and intelligence systems to satisfy the needs of all key stakeholders to achieve national aspirations.*”⁵ This requires that MSTTE:

- a. internally develop a strong, technical research capacity to gather data and perform analyses;
- b. develop a research agenda to identify core competencies, knowledge and skills needed for the development of a knowledge-based society; to guide curricular reform and monitor work-force competencies and skills; and to facilitate on-going curricular review and reform;
- c. Gather information required in respect of:
 - i. all aspects of enrolment in tertiary education and TVET, including but not limited to admissions, programme, gender, student status;
 - ii. existing and projected labour market needs, by industry;
 - iii. training provider capability by programmes, qualifications, certifications, local and international accreditation, educators, trainers, etc;
 - iv. academic qualifications of school leavers, including dropouts;
 - v. demographic data, current and projected;
 - vi. graduate tracer studies;
 - vii. The cost of educating students, by programmes and institutions

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- d. make effective use of ICTs in the implementation an Educational Management Information Systems (EMIS);
- e. implement policies, measures and a public education programme to ensure compliance with MSTTE data submission requirements;
- f. develop alliances with other research agencies for collaboration and exchange of information. In this context, the national system must be compatible with other regional and international systems;
- g. establish targets and performance expectations that would be conducive to the introduction of performance-based management at both the sector and the institutional level.

Funding

Policy Goal

Commitment to the design and implementation of funding and resource allocation mechanisms that promote greater equity of access, efficiency in operations, and improved quality of programmes and services, in order to better harness the outputs of both public and private tertiary education providers in support of national development goals.

Government's Framework for Sustainable Development speaks directly to strengthening the tertiary education and TVET system's capacity to drive economic development and transformation. In order to achieve this goal, funding priorities and approaches will be revisited, and emphasis placed on strategies that enhance sustainability and accountability in tertiary education and TVET funding and improve the quality and impact of outcomes.

4.1. FUNDING MODELS FOR TERTIARY EDUCATION

4.1.1. Mature and well-developed tertiary education and TVET systems are generally characterized by multiple funding agencies and financing mechanisms which target different outcomes.

4.1.2. In such systems, the government is only one of several stakeholders in the funding regime. Foundations, international organizations, the corporate sector and professional associations also provide significant financial support for tertiary education development. These organizations are able to fund different aspects of education and training development and, in so doing, ensure that the sector, as a whole, has the knowledge and capacity to advance the achievement of social and economic development goals, and to bring about improvements in the quality, effectiveness and efficiency of educational and training systems, outputs and learning outcomes.

4.1.3. Where there is a direct link between the outputs of the education and training system and the benefits to be derived by business and industry, the State often provides fiscal incentives to employers, thus supporting the development, upgrade and expansion of tertiary education and TVET through tax exemptions for donation of equipment and/or services, provision of apprenticeship spaces, and awarding of scholarships.

4.1.4. Where there is a strong government commitment to promoting social equity, the State is usually the primary funding source for student and institution-based financial aid schemes. The State is also more likely to fund high-cost capital intensive programmes, such as the medical sciences, engineering and technical-vocational education that are clearly linked to social needs and economic development plans than private providers who shy away from the high overhead and maintenance costs.

4.1.5. Funding for quality improvement is often strategically driven by independent agencies or foundations, and funded through corporate philanthropy. Colleges and universities are able to apply for competitive grant funding to implement projects or conduct sponsored research which specifically target quality improvements in the education system. Institutions which demonstrate significant improvement in quality of outputs are also eligible for quality awards. Access to funding of this type levels the playing field for institutions of different size and capacity and facilitates direct fiscal support/rewards for quality enhancement activities.

4.1.6. International agencies, through bilateral or multilateral agreements, are another source of funding for sector development. For example, under the 9TH EDF Programme, the Government of Trinidad and Tobago has access to grant funding from the European Commission in the amount of €27.3 million for the development and rationalization of the non-university tertiary education sector in Trinidad and Tobago. Access to this type of grant or loan funding is usually conditional upon the country's having an appropriate legislative and policy framework for the disbursement and management of such funds.

4.2. GOVERNMENT FUNDING OF TERTIARY EDUCATION AND TVET

4.2.1. At present, the Government of Trinidad and Tobago is the primary source of tertiary education and TVET funding, which is delivered through various Ministries, and the primary use of this funding is to support the delivery of education and training programmes.

4.2.2. Over the last decade, Government has expended more than US \$2 billion on expanding capacity of the tertiary education and TVET system. This figure includes funding for public tertiary education and TVET institutions, skills training, and the provision of financial aid to students through the Government Assistance for Tuition Expenses (GATE) programme and the Higher Education Loan Programme (HELP).

4.2.3. The GATE programme was introduced in 2004. Under this funding scheme, students are able to access tertiary education at the undergraduate level, free of charge, at both private and public tertiary level institutions (TLIs). Students pursuing post-graduate studies at public institutions are eligible for 50% of tuition costs per academic year, while those at private TLIs receive 50% of tuition up to a maximum of \$20,000 and \$30,000 per academic year for master's and doctoral level degree programmes respectively. The GATE Programme is under continuous review to ensure compliance with Government policies regarding quality, access and other accountability measures, including the submission of data on all aspects of enrolment.

4.2.4. The HELP programme, which was introduced in 2006, is a special loan facility which can be accessed by nationals of Trinidad and Tobago pursuing tertiary level education locally or within the CARICOM region. Interest on these loans is subsidized by the Government of the Republic of Trinidad and Tobago.

4.2.5. In addition to the GATE and HELP funding schemes, other Ministries also provide scholarship funding for citizens to pursue undergraduate and post-graduate studies.

4.2.6. This level and pattern of funding must be viewed against the backdrop of Government's commitment to increasing the tertiary education participation rate to sixty percent (60%) by the year 2015. If the current rate of annual increase in participation of over 4% is sustained, the country is well on its way to achieving this goal.

4.2.7. However, achievement of this participation rate is not an end in itself and must now be considered in relation to Government's economic diversification plans and the economy's current absorptive capacity for tertiary education graduates. With the decline in oil and gas revenues, Government's policy and strategy is likely to be directed at improving the 'value for money' proposition of this significant financial investment in widening access.

4.3. FUNDING, ACCOUNTABILITY AND EQUITY

4.3.1. At present, the Government has a limited capacity to make resource allocation decisions. This is based on the lack of readily available data on the cost to produce a graduate in various disciplines, levels of programmes, or on the impact of tertiary education and TVET outputs on the labour market and national productivity. In the absence of such data, efficient use of public funds is virtually impossible.

4.3.2. With the introduction of GATE and HELP, private tertiary education providers have emerged as major contributors to the development of the sector. With the ongoing work of ACTT, there is greater public confidence that private providers are meeting at least minimum quality standards. The involvement of the private sector in tertiary education will be encouraged and sustained. However, the Government will implement new measures to be able to perform comparative analyses on the impact and outcomes of both public and private tertiary education in order to be in a position to make more informed decisions to secure efficiencies in resource allocation.

4.3.3. Consistent with more mature and developed higher education systems, the Government will place increasing emphasis on linking access to public funds to evidence that institutions are meeting key performance indicators such as retention rates, academic progress profiles, graduation rates (including time to completion), post graduation employment rates, and transfer rates. The use of information and communication technologies (ICTs) to improve student accountability is an emerging trend which can also be considered. Students' use of electronic cards with a unique IDs to access programmes throughout the sector, and data on enrolment, expenditure, achievement and transfer can be captured in a national database. Such measures will produce greater efficiency in the management of financial aid programmes such as GATE and HELP.

4.3.4. Programme alignment to national priorities, in science, technology, engineering and mathematics (STEM) disciplines and to strategic goals such as economic diversification and the creation of a knowledge economy will also be used to shape the outputs of the sector. Both initiatives will serve as catalysts for the creation of a more performance-oriented culture within the tertiary education and TVET system.

4.3.5. Government will also strengthen equity and transparency in resource allocation through the establishment of funding formulae linked to specifically targeted outcomes. Where the goal is to increase enrolment, the Government may determine an optimal cost to produce a graduate in a specific discipline, on the basis of detailed analysis of direct and indirect costs, and establish a fixed tuition rate for a particular category of institution or programme and disburse funds accordingly. Such measures will encourage cost containment at the institutional level. Where the goal is to increase enrolment while improving quality and efficiency, Government will combine cost information with performance on key indicators to determine allocation of funding to both public and private providers, and in so doing, shape the development of the sector.

4.3.6. The introduction of stronger efficiency measures will be balanced with a concern for fostering social equity and development. Government will ensure that it caters for those citizens who have been historically disadvantaged in respect of access to tertiary education and TVET due to systemic barriers, such as the differently-abled, the financially challenged, the academically-underprepared, and those who live in rural communities.

4.4. FUNDING FOR NATIONAL AND SECTOR DEVELOPMENT

4.4.1. Trinidad and Tobago currently expends less than 1% of GDP on research and development activities. While sustaining its commitment to widening access, Government will also prioritise funding for research and development which are recognized as key drivers of economic competitiveness, innovation and entrepreneurship. Research focussed on industry and market needs and opportunities quite often leads to innovation and commercial ventures necessary for the long term sustainability of any economy. Other conditions and inducements, such as the availability of venture capital and incentives for product design and development are also necessary for success. Increased availability of funding in this area will have the effect of nurturing a research culture and capacity in tertiary education and TVET, one of the major areas of underdevelopment in the sector.

4.4.2. Another priority area for state funding will be programmes and initiatives that develop capacity for tertiary education leadership, management and administration at the sector and institutional level. Lack of critical mass in this area has been identified in the MSTTE Strategic Plan as a significant barrier to achieving targeted sector outcomes.

4.5 SUSTAINABILITY OF FUNDING

4.5.1. Recent developments in the global economy underscore the importance of taking proactive measures to plan for the sustainability of funding of tertiary education and TVET development, especially where outputs of the tertiary education and TVET system is expected play a crucial role in national economic development. In this regard, Government proposes to introduce a number of fiscal incentives to encourage higher levels of private sector and individual support for tertiary education development.

4.5.2. The Government will explore public/private partnerships for the financing of major infrastructural development projects. For example, fiscal incentives can be provided to encourage private sector financing and management of educational conferencing spaces, which are always in demand by multiple tertiary level institutions. Similarly, Government can consider introducing more tax incentives to encourage the development of corporate philanthropy for educational development.

4.5.3. More significantly, Government proposes to secure the sustainability of funding for tertiary education and TVET through the establishment of a National Training and Development Fund which should be used to finance major capital, strategic and human resource development projects. Seed funding from Government for the establishment of this fund should be supplemented by other financial measures, such as taxes on revenue from alcohol and gambling, a national education tax, or the issuance of treasury bonds.

4.5.4. Sector level initiatives for the sustainability of funding for tertiary education and TVET will be complemented with a focus on strengthening institutional capacity to diversify revenue streams through innovation and entrepreneurship.

Quality, Accountability and Sustainability

Policy Goal

Capacity-building and human resource development with a focus on quality assurance, teaching, research, educational leadership and performance-based management to ensure the efficient and cost-effective functioning of the expanded and transformed tertiary education and TVET system.

5.1. AN EFFECTIVE AND INTEGRATED QUALITY ASSURANCE SYSTEM

5.1.1. One of the distinguishing features of the 21st century is the rapid and massive expansion of tertiary education and TVET internationally. Two major factors have been identified as catalysts for the expansion: an increase in social demand for higher education and an economy-driven need for more highly educated, skilled and responsible human resources to meet the present and future needs of all sectors of human activity. This increased economic need, for skills requiring a higher level of education and training, advances in information and communication technologies, and greater geographic mobility among workers, have fuelled the need for diversified higher education systems, characterised by a greater diversity of institutions and programmes; flexible modes of course delivery, including virtual technologies and cross-border collaborative arrangements.

5.1.2. All of these developments pose challenges for the efficacy of quality assurance systems worldwide. The tertiary education and TVET sector in Trinidad and Tobago is not immune to these challenges. In this context, the Government is committed to strengthening its efforts to protect its interest, and the interests of all citizens: students, employers, professional bodies, employees and the public, from quality that is compromised.

5.1.3. The MSTTE is committed to further harmonization and strengthening of the regulatory frameworks, systems and co-ordinating mechanisms for quality assurance and accreditation of tertiary education, TVET and lifelong learning. This will be achieved through the implementation of the Memorandum of Understanding (MOU), signed between ACTT and the NTA on July 14th 2010. Through this relationship, the Ministry will ensure that the harmonized approach provides quality assurance and quality improvement not only for traditional, institution-based learning, but also for the assessment and certification of skills acquired through non-traditional modes including experiential learning, work-based training and open and distance learning.

5.2. ACCOUNTABILITY

5.2.1. Over the last decade, Trinidad and Tobago has experienced sustained growth and diversification of its tertiary education, TVET and lifelong learning sectors stimulated by the policies of successive governments. In light of the steady expansion in student enrolment and the growth of the sectors, there are growing concerns over the extent to which 'massification' may have led to a lowering of academic standards. The paucity of reliable and accurate

statistics on student progression, completion and graduation rates, student learning outcomes and other indicators of educational effectiveness has created a situation in which there is little public accountability for the investment of government, funding agencies, private sector investors and private citizens in post-secondary and tertiary education and training.

5.2.2. The principle of public accountability makes institutions that are in receipt of public funds answerable for actions and decisions not only to their governing bodies but also to the Ministry and the national community. The Ministry also subscribes to the principles of institutional autonomy and academic freedom. However, in the interest of accountability and sustainability, the Government has a responsibility to establish strong and effective systems to ensure that the country derives the maximum benefit from its investment. This investment must also equip graduates with high-demand skills and quality education and training that meet the needs of existing and emerging industries. There will be greater demand for transparency and accountability in the operations of all publicly-funded institutions, with an emphasis on ensuring that all institutions provide evidence of the quality and integrity of qualifications awarded, the most efficient and cost-effective use of resources to achieve verifiable results and concrete demonstration of the extent to which national policy goals and priorities are being met.

5.2.3. Private institutions do not have to subscribe to the same level and extent of accountability as public ones, but the protection of the public requires a measure of performance monitoring by government, particularly for private institutions that are in receipt of public funds or subsidies.

5.2.4. In the movement towards the creation of a more responsive and integrated sector that is characterised by performance-based allocation of resources and rigorous accountability systems, the Ministry will place greater emphasis on the evaluation and assessment of the quality of teaching, research and administrative strength (with a focus on financial management and leadership) of providers of post-secondary and tertiary education, TVET and lifelong learning. The major objective is quality improvement, and performance assessment is one of this Ministry's priorities and a strategy for increasing returns on the investment in education and training.

5.3. EFFECTIVE PERFORMANCE MONITORING AND QUALITY IMPROVEMENT

5.3.1. The Ministry will establish a system of annual reporting by all education and training providers on specific performance indicators related to student success, faculty effectiveness, student support, educational leadership and other measures of institutional effectiveness. This will form the basis for the creation of a single, comprehensive data collection system that will be built around a series of interrelated standardized surveys to collect data on student enrolment, completion/graduation rates, faculty, staff, research output, and other critical areas. The Ministry will ensure that the system is designed with appropriate security safeguards, and to do so, it will draw on the experience of countries such as the United States of America, where a comprehensive system called the Integrated Postsecondary Education Data System (IPEDS) has existed for over fifteen years.

5.3.2. This centralised data repository will provide the Ministry with consistent, reliable, complete, and accurate data on the performance of individual institutions and of the sector as a whole. The system will also be capable of generating longitudinal data, signalling trends and producing high-quality data for use by policymakers and other users such as the ACTT, NTA, other government agencies and ministries and the institutions themselves. It will also lay the foundation for the comparability of statistics on the educational quality of different programmes and institutions across the sector, and internationally.

5.3.3. The annual reporting system will be a key component of the Ministry's approach to effective performance monitoring with an increased focus on the quality and relevance of education, training and research outcomes and outputs. Every institution, on the basis of its mission and goals, makes a distinctive contribution to society, and this government encourages and celebrates the diversity of our tertiary education and training institutions, both public and private. Through the annual reporting system however, institutions will be able to demonstrate the extent to which their education, training and research contribute to economic, social, cultural and environmental outcomes that meet the needs of a sustainable and competitive economy.

5.3.4. There will also be greater transparency in the performance of institutions and programmes as more information will be made available to students and the public to enable them to make informed choices. Sector analyses and other data will be published by the Ministry on a regular basis. Through this initiative the government will be able to make evidence-based decisions and address high-priority needs within the sector, while also providing greater assurance of the quality of services provided to the society by institutions and other providers.

5.4. QUALITY ASSURANCE AGENCIES

5.4.1. In the context of the Framework for Sustainable Development, a review of the effectiveness of the national quality assurance framework for Trinidad and Tobago leads us to examine issues of relevance, efficiency, accountability and sustainability. The Accreditation Council of Trinidad and Tobago (ACTT) is the national competent authority for quality assurance and accreditation for post-secondary and tertiary education. ACTT is responsible for the registration and accreditation of institutions, as well as the approval and recognition of transnational institutions and programmes. So far, eighty-six (86) institutions have been registered by ACTT and there are at least ten (10) institutions currently seeking accreditation. ACTT, as a statutory body, also plays a major role in providing independent, strategic advice to the Minister of Science, Technology and Tertiary Education on matters related to quality assurance and the promotion of a quality culture in the post-secondary and tertiary education sector. The National Training Agency (NTA), which was established in 1999, plays a fundamental role in quality assurance and the improvement of TVET providers and programmes. The Ministry will place greater emphasis on strengthening the mechanisms to ensure that the ACTT and the NTA adhere to internal best practice for external quality assurance agencies, in order to safeguard and enhance the image and reputation of the sector in Trinidad and Tobago.

5.4.2. As the role and expectations of quality assurance agencies become even more critical in light of the growing demands for accountability and higher standards of education and training, there will be greater emphasis on the training and certification of quality assurance professionals, external and peer evaluators and members of governing boards of the agencies to empower them to better carry out their responsibilities. This is consistent with global trends to enhance the skills and competence of quality professionals and others involved in the activity, and to preserve the integrity of quality assurance and accreditation processes.

5.4.3. This emphasis on training and certification of quality assurance systems, will be achieved through the Ministry's support for capacity-building initiatives for ACTT and the NTA in collaboration with partners already active in this area, such as the Caribbean Area Network for Quality Assurance in Tertiary Education (CANQATE); the Caribbean Association of National Training Agencies (CANTA); the International Network of Quality Assurance Agencies in Higher Education (INQAAHE); the Commonwealth of Learning (COL), UNESCO and other international agencies.

5.5. SUSTAINABILITY: FOCUS ON CAPACITY-BUILDING AND HUMAN RESOURCE DEVELOPMENT

5.5.1. The success and sustainability of the Government's initiatives to improve the quality of the sector is critically dependent on building and enhancing capacity in all spheres. The Ministry recognises that, while the providers of education and training in the sector are primarily responsible for capacity-building, there is a need for national initiatives to facilitate and support institutional strengthening and capacity-building programmes. Human resource development is particularly important to prepare academic and administrative staff for implementation of new policies and to ensure the efficient functioning of the system. This will be achieved through effective partnerships between the Ministry; universities, colleges and other providers; NGOs; the local private sector; and international agencies.

5.5.2. Teacher Training and Professional Development

Quality teaching is vital to effective curricular reform and the transformation of the sector. TVET and tertiary education instructors are expected to be trained in pedagogy as well as in relevant hands-on skills, however traditionally, universities have not mandated teacher training for academic staff. It is now widely recognized that teachers at the tertiary level need to develop their pedagogical and related skills, as do teachers at the other levels of the wider education system. There is also a need for technological re-skilling to prepare teachers to function effectively in modern, technologically-advanced learning environments.

5.5.3. Some tertiary institutions currently provide training and professional development support for tertiary-level teaching staff in andragogy, instructional design, learning technologies, outcomes-based assessment and other areas. The Ministry will support institution-based initiatives to expand programmes in tertiary-level teaching and learning and make these available through the use of distance technologies. The Ministry will also engage in consultations with tertiary-level teachers and other key stakeholders to address issues related to the professional preparation for teaching at the tertiary level, and the introduction of a requirement for the certification and licensing of the professionals.

5.5.5. Educational Leadership and Administration

The Ministry is committed to improving the quality of educational leadership and management in the integrated sector at the level of the institutions as well as within the Ministry. Not only will the transformation of the sector require strong and effective administrative skills but also visionary and change-oriented leadership. The Ministry will serve as an enabler for the development and implementation of professional development programmes in educational administration, educational planning and project-based management, specifically designed to equip senior-level academic and administrative staff to meet the needs of the complex and rapidly changing tertiary education and TVET environment.

5.5.6. Institutional Research

This new performance-driven approach to the development of the sector will stimulate higher levels of performance and enhance sustainability. In order for institutions and other providers to generate the data required by the Ministry in the context of the new system of annual reporting, there needs to be greater emphasis on the development of their institutional research capability. Effective institutional research units serve to promote improved decision making and planning that result in organizational development and improvement. As institutions become more aware of the need to evaluate and demonstrate their contribution to national economic development, analyze and improve their internal processes and provide consistently high-quality student learning outcomes, they will need greater support in developing the capacity for sound institutional research. Ad hoc reporting and weak statistical analyses must be replaced by systems for the generation of high-quality and reliable qualitative and quantitative data. The Ministry will play a lead role in facilitating capacity-building initiatives in areas such as academic analytics that will serve the needs of institutional personnel, as well as the Ministry's own staff.

CONCLUSION

The Government of the Republic of Trinidad and Tobago (GORTT) is committed to people-centred, sustainable development and the building of a competitive economy. According to the UNESCO Strategy for the second half of the United Nations Decade of Education for Sustainable Development (DESD), *“reorienting education to integrate sustainable development principles, values and practices must take place not only in formal institutions but also in many other learning processes and social settings. Moreover, although creating an education that empowers people to address important sustainable development challenges is a multi-stakeholder endeavour – a task for the whole society – the primary responsibility lies with government”*.

To ensure the progressive and full implementation of this policy, the Government will:

- Establish a Multi-sectoral Task Force to develop a National Strategy for Education for Sustainable Development (ESD). The national strategy can be informed by the UNESCO DESD Strategy and will be developed through an open and inclusive process that will engage key stakeholders, as well as persons from all walks of life, in dialogue, consultation and participative decision-making. Investment in Education for Sustainable Development is an investment in this country’s future and this Strategy, when implemented, will lead to a re-shaping and improvement of the content and quality of all education.

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ANNEX A: GLOSSARY

ACRONYMS

ACTT	Accreditation Council of Trinidad and Tobago
ATTIT	Association of Tertiary Institutions of Trinidad and Tobago
CAPE	Caribbean Advanced Proficiency Examinations
CARICOM	Caribbean Community
CGCED	Caribbean Group for Cooperation in Economic Development
COMPASS	A term used to describe Tertiary Education Placement Tests
COSTAATT	College of Science, Technology and Applied Arts of Trinidad and Tobago
CSEC	Caribbean Secondary Education Certificate
CTET	Council for Tertiary Education and Training
CVQ	Caribbean Vocational Qualification
CXC	Caribbean Examinations Council
DESD	Decade of Education for Sustainable Development
GATE	Government Assistance for Tuition Expenses
GDP	Gross Domestic Product
GORTT	Government of the Republic of Trinidad and Tobago
HELP	Higher Education Loan Programme
IDU	Instructional Development Unit
LMIS	Labour Market Information System
MOE	Ministry of Education
MPA	Ministry of Public Administration
MSTTE	Ministry of Science, Technology & Tertiary Education

MSD	Ministry of Social Development
MuST	Multi-Sector Skills Training Programme
NAP	National Apprenticeship Programme
NCOSTI	National Council on Science, Technology and Innovation
NEC	National Examinations Council
NIHERST	National Institute of Higher Education, Research, Science & Technology
NOS	National Occupational Standards of Competence
NQF	National Qualifications Framework
NTA	National Training Agency
OJT	On-the-Job Training Programme
PUP	Pre-University Programme
S&T	Science & Technology
STI	Science, Technology & Innovation
TE	Tertiary Education
TETVET	Tertiary Education and Technical-Vocational Education and Training
TLI	Tertiary Level Institution
TTNVQ	Trinidad and Tobago National Vocational Qualification
TVET	Technical, Vocational Education and Training
TVETC	Technical Vocational Education and Training Council
USC	University of the Southern Caribbean
UTT	University of Trinidad and Tobago
UWI	The University of the West Indies

DEFINITIONS

Andragogy: the science and techniques related to the teaching and learning strategies of adults. It is also referred to as Adult Education, and is associated with terms such as Continuing Education, Professional Development and Lifelong Learning, which are often related but are specific concepts in themselves. There is a distinction between TVET and informal adult education geared towards the acquisition of skills for personal development.

Distance Learning: a form of study where the learner spends all or most of his time physically separated from his teacher(s). Teaching is accessed through the use of a variety of technologies. This variety means that distance programmes vary considerably in the mix of media.

e-Learning: a form of learning that utilizes networked computer technologies and applications to access learning materials and to enable teachers and learners to communicate with each other in one-to-one, one-to-group, and one-to-all situations.

Lifelong Learning: all learning activity undertaken throughout life, with the aim of improving knowledge, skills, and competence within a personal, civic, social and/or employment-related perspective⁶. The term recognizes that learning is not confined to childhood or the classroom, but takes place throughout life and in a range of situations.

Open Learning: a philosophy or attitude governing the design of educational programmes, which aims to make programmes more learner-centred by increasing flexibility and choice for the learner.

Participation Rate: The OECD defines participation rate as ‘the extent to which the “school-age” population is able to pursue education, ideally to the completion of the level concerned⁷. The most commonly used indicators to measure participation are: (i) gross enrolment ratio; (ii) net enrolment ratio; (iii) age-specific enrolment ratio. UNESCO also suggests admission rate as a good indicator for this measure.

- a. **Gross enrolment ratio** - Number of students enrolled in a given level of education, regardless of age, expressed as a % of the population in the theoretical age group for the same level of education. For the tertiary level, the population used is the five-year age group continuing/proceeding from secondary school leaving age;
- b. **Net enrolment ratio** - Calculated by dividing the number of students of a particular age group enrolled in all levels of education by the number of people in the population in that age group;
- c. **Age-specific enrolment ratio** - The number of students enrolled in tertiary education in a given age group;
- d. **Admission Rate** - the flow of new entrants to tertiary education.

6. Policy on Lifelong Learning, Jamaica (2004)

7. Education at a Glance 2008

Post-secondary: all education and training programmes which are not classified as tertiary level but are offered to secondary school leavers to meet their vocational or continuing education needs⁸. The programme content is more specialized or detailed than programmes at the secondary level and are usually applications oriented. For example, technical courses given during an individual's professional life on specific subjects as computer software could be included in this level.⁹

Seamless Education should facilitate student mobility between sectors/levels, particularly in making the transition from secondary to post-secondary and tertiary levels, including mobility between the technical and vocational education and training sector and other general disciplines. Such seamlessness need not and should not compromise each sector's distinct nature and character. The seamless system is being designed to eliminate all barriers to access to educational opportunities for all persons with a desire and capacity to learn¹⁰.

Technical-vocational education and training (TVET): programmes that provide for the acquisition, improvement or re-direction of citizens' knowledge, skills and competencies that prepare them for specific employment opportunities, mainly at the sub-professional level.

Tertiary education: the teaching and learning process that occurs following successful completion of secondary schooling or its equivalent.

Training is related to the acquisition, improvement or re-direction of skills and competencies which usually complement the acquisition of knowledge and the application of theoretical principles.

8. Accreditation Act 16 of 2004

9. International Standard Classification of Education (ISCED 1997). UNESCO-UIS Re-edition May 2006.

10. Report on the Establishment of a Seamless Education and Training System (2005)