FINAL DRAFT

VISION 2030 JAMAICA

CONSTRUCTION

SECTOR PLAN 2009 - 2030

Construction Task Force

September 2009

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1. Introduction

1.1 Vision 2030 Jamaica – National Development Plan

In 2006, the Government of Jamaica (GOJ) mandated the Planning Institute of Jamaica (PIOJ) to lead the preparation of a comprehensive long-term National Development Plan (NDP) which would place Jamaica in a position to achieve developed country status by 2030. Development of the Plan began in January 2007 and thirty-one Task Forces (TFs) including the Construction Task Force were established thereafter. The TFs represent sectors and areas critical to the achievement of the national goals and have been charged with responsibility for developing the relevant long-term sector plans.

The Construction Task Force commenced the plan preparation exercise in September 2007, leading to the completion and submission of a 1st draft report for the long-term development of the construction sector in Jamaica. Following review and stakeholder consultation, and preparation of an action plan for the sector, the Construction Sector Plan for Vision 2030 Jamaica was completed in 2009.

This Sector Plan for Construction is one of the strategic priority areas of the ***Vision 2030 Jamaica - National Development Plan***. It is one of thirty-one sector plans that form the foundation for Vision 2030 Jamaica – a 21-year plan based on a fundamental vision to make *'Jamaica the place of choice to live, work, raise families, and do business,'* and on guiding principles which put the Jamaican people at the centre of the nation's transformation.

Vision 2030 Jamaica will develop a dynamic and internationally competitive construction sector that supports economic development and growth, with the flexibility and creativity to adopt and adapt new construction technologies that may emerge over the long term. The Construction Sector Plan will improve the competitiveness of sector members in Jamaica, and contribute to the international competitiveness to other productive sectors of the Jamaican economy through provision of construction services at levels of efficiency and cost comparable to international benchmarks. Vision 2030 Jamaica will develop a policy and regulatory framework for the construction sector that fosters competition and transparency and enhances environmental sustainability.

The preparation of the Plan was supported by a quantitative systems dynamics computer model – Threshold 21 Jamaica (T21 Jamaica) – which supports comprehensive, integrated planning that enables the consideration of a broad range of interconnected economic, social and environmental factors. The T21 Jamaica model is used to project future consequences of different strategies across a wide range of indicators, and enables planners to trace causes of changes in any variable or indicator back to the relevant assumptions and policy choices.

This sector plan was developed using the following processes:

- Participation of Task Force Members[1] through Task Force Meetings[2] that were used to solicit ideas and views on Construction issues and challenges facing Jamaica as well as identifying a vision for Construction in Jamaica, and determining key goals, objectives and strategies for the sector
- Research on international best practices in Construction that could be adapted to the Jamaican context
- Review of relevant documentation on the Construction Sector
- Development of a detailed Action Plan with responsible agencies and time-frames for implementation

This Sector Plan for Construction is structured in the following main chapters as follows:

- Situational Analysis
- SWOT Analysis
- Strategic Vision and Planning Framework
- Implementation, Monitoring & Evaluation Framework
- Action Plan

1.2 Construction and National Development

The Construction Sector represents a critical component of any country based on its impact on national development. Construction is the process through which the entire built environment is created and shaped, including critical physical infrastructure, shelter and urban spaces, and has a significant impact on the natural environment. The Construction sector also draws on a wide range of inputs including building materials and supplies, labour and professional services, energy, transport and other supplies. The Construction Sector Plan therefore also will have implications for other areas of national development including housing, transport, urban and regional planning, environment, mining and quarrying, tourism and manufacturing. During the period 2003-2008 Construction represented on average 8.0% of Jamaica's Gross Domestic Product (GDP)[3].

[1] See Appendix 1 for List of Members of the Construction Task Force.
[2] See Appendix 2 for Listing of Task Force Meetings.
[3] Based on contribution to total goods and services production in basic values at constant (2003) prices (PIOJ).

2. Situational Analysis – Jamaica's Construction Sector

The construction sector has been a fundamental part of the Jamaican economy for centuries. The buildings, roads, bridges and other infrastructure constructed by past generations trace the history of the island in physical form and represent a vital part of its heritage. The modern construction sector provides the means by which the new Jamaica will be built, and the level of its performance will contribute to the quality of life of the current generation as well as the legacy left for the future.

2.1 Overview

The Jamaican construction and installation sector has many linkages with other sectors in the domestic economy including tourism, housing, financial and business services, manufacturing, transport, storage and communication, and distribution, as well as the social sectors that generally fall under government services. Consequently economic activity in any of these sectors will contribute to growth in the construction sector through their construction cost component. The sector also benefits from certain counter-cyclical trends, including the periodic stimulus provided by rebuilding after the impact of natural disasters which tend to depress growth in other economic sectors. The long-term growth of the construction sector therefore will be influenced by the overall growth of the economy, as well as by measures taken to strengthen the efficiency and resilience of the sector.

Consequently, the low average growth in the macro-economy in recent years has been reflected in the performance of the construction sector, which has only shown marginal growth over the past decade and a half.[4] The growth of the sector was particularly affected by the financial sector crisis in the 1990s, which impacted the financing of construction projects as well as reduced the aggregate demand for construction services in the economy. The construction sector showed an overall decline of 12.2% in real output over the period 1995 – 1999,[5] the second largest decline of any productive sector over this period. This period of protracted decline also had long-term effects on the human and financial capacity of many companies in the sector from which, in some respects, the sector has not fully recovered.

In 2008 the construction sector represented $41.8 billion in constant dollars,[6] and accounted for 8.3% of total GDP[7]. The main components of the sector include residential construction, non-

[4] The total value added by the construction industry in 2008 was only 1.8% higher than the total value added by the industry in 1992 (PIOJ).
[5] PIOJ.
[6] Value added by industry at constant (2003) prices (PIOJ).
[7] Based on contribution to total goods and services production in basic values at constant (2003) prices (PIOJ).

residential construction including schools, hotels, offices and other facilities, construction of infrastructure, and electrical and water installations. The Government of Jamaica is the largest single client in the construction sector. The local construction sector shows a dichotomy in ownership with the majority of construction firms being locally owned, while there are a small number of large foreign construction companies that typically undertake major construction projects including large infrastructure and tourism projects. However in many cases local construction companies are involved as sub-contractors on such projects.

The planning for Vision 2030 Jamaica has taken place within the context of a global economic recession which commenced in US credit markets in 2007, and spread in 2008-2009 to affect the economies of developed and developing countries alike. The consequences for Jamaica are likely to include: reduced flows of direct investment; greater difficulty in sourcing financing from global capital markets; reduction in demand for Jamaica's exports; and a downturn in tourism earnings. The impact will limit the prospects for growth in our economy, including the construction industry, and reduce funds available for spending on social services in the initial years of implementation of the National Development Plan, until recovery takes place.

2.2 Sectoral Performance

2.2.1 Residential Construction

Housing represents a major component of the construction sector. In 2008 there were a total of 3,973 housing starts, including those built by all Public Sector Agencies, down from 5,203 housing starts in 2004. Total housing completions moved to 5,273 solutions in 2008, down from 5,832 solutions in 2004. Suitable accommodation is a basic right and contributor to the quality of life of the Jamaican people. While there has been significant progress in the quantity and quality of housing over the period since Independence, the housing quality index (HQI)[8] remains higher in urban centres than in the rural areas of Jamaica. However the HQI has shown some increase in recent years, rising from 67.2 in other towns in 2002 to 70.6 in 2006, and from 55.5 to 60.1 in rural areas over the same period, while increasing slightly in the KMA from 75.0 in 2002 to 75.4 in 2006.[9]

The main providers of formal housing solutions include the Ministry of Water and Housing (MWH), Urban Development Corporation (UDC), National Housing Trust (NHT), Housing Agency of Jamaica (HAJ), and West Indies Home Contractors (WIHCON). The range of housing solutions include units in housing schemes, serviced lots and settlement upgrading, and are concentrated in urban areas based on the availability of adequate infrastructure. The development of the housing sub-sector will be guided by a National Housing Policy that is being prepared by the Ministry, and by the existing Joint Venture Housing Policy that provides a framework to encourage partnerships between private sector developers and public sector entities in the provision of new housing solutions in Jamaica. The Government, through the Ministry of

[8] The Housing Quality Index is calculated based on the following indicators: material of outer walls; main source of water; main source of lighting; toilet facility; kitchen facilities; and number of persons per habitable room (Jamaica Survey of Living Conditions 2004).

[9] Source: Survey of Living Conditions 2002 & 2006.

Water and Housing also is in the process of developing a supporting Implementation Plan for the National Housing Policy, with the broad goal of facilitating better utilization of resources in the public and private sectors to satisfy the demand for housing in a coordinated and economical manner and to respond to the diverse needs of disadvantaged and vulnerable persons in the society. The increase in benefits to National Housing Trust (NHT) contributors in 2006 including doubling of the loan limit for applicants also will help to support growth in the residential construction market.

2.2.2 Non-Residential Construction

The main components of non-residential construction in Jamaica include commercial facilities such as hotels and offices, schools and other public facilities, and the construction of infrastructure. In recent years the construction sector has benefitted from a number of major infrastructure projects that have included airport expansion projects, highway and transport centre construction, seaport and container terminal expansion projects, and construction projects associated with major international events including the Cricket World Cup.

In the transport sector, The Norman Manley International Airport Capital Development Programme comprises Phases 1A, 1B and 2. Phase 1A was completed and was opened in September 2008. This Phase which included the new departure building at the eastern end of the present Terminal was integrated with the existing Ticketing Concourse. Work on Phase 1B is ongoing with completion date set for 2012. Construction on Phase 2 is scheduled for 2013 – 2023. The second and final phase of the Sangster International Airport Expansion Project is expected to be completed by mid-2009 and involves extensive renovation of the existing terminal

Construction work on Segment 2A of the North Coast Highway Improvement Project (Montego Bay to Greenside) was completed in July 2008. The project, valued at US$54.0 million included dualization of portions of the road between Montego Bay and Rose Hall into a four lane carriageway. Work on Segment III of the North Coast Highway Project continued in 2008 and was approximately 89.0% complete. The project, which consists of the rehabilitation of 96 kilometres of a two-lane main road from Ocho Rios to Port Antonio, included the construction of eight new bridges and the rehabilitation of 16 bridges. Project financing comprised a €80.0 million ($6.5 billion) grant from the European Union (EU) and counterpart funding from the Government of Jamaica (GOJ) of €25.0 million ($2.0 billion. Work is currently ongoing on the Linstead to Moneague Bypass segment of Highway 2000 which includes the Mount Rosser Bypass. Construction on the approximately 20 kilometres road started in June 2007 and is expected to be completed in 2010.

Construction work on the Yallahs River Bridge was completed in August 2008. The contract sum of the 157 metres bridge project was valued at $402.7 million. The minimum life span of the bridge was estimated to be 70 years and was constructed to withstand severe weather conditions. Work on the Kingston Container Terminal Expansion Project continued and was 98.0% complete at the end of December 2008. On completion, the capacity of the Container Terminal will be increased to 3.2 million twenty-foot equivalent units, representing a 100.0% increase in capacity.

Despite an increase in total cement production from 595,000 tonnes in 2001 to 844,800 tonnes in 2005, shortages of cement emerged in 2006 due to increased demand in the sector and problems in the quality of cement being produced locally, leading to importation of bulk cement from regional sources including Cuba. The shortages of this raw material contributed to a decline of an estimated 2.2% in the level of real production for the construction and installation sector in 2006. Cement production totaled 734,528 tonnes in 2008, while approximately 209,125 tonnes of cement was imported during 2008 compared with 75,828 tonnes in 2007.

Electrical and water installations also play a role, albeit minor, in the performance of the construction sector. Total electrical inspections by the Electrical Division of the Ministry of Energy and Mining amounted to 29,681 inspections in 2008, up from 24,764 inspections in 2005.[10] A total of 23,272 water meters were installed islandwide by the National Water Commission during 2008 compared with 20,548 meters installed in 2005. Installation activities in the telecommunications subsector included mobile communications expansion, improvement and expansion of broadband services and expansion of Voice Over Internet Protocol (VOIP) service.

2.3 Policy and Institutional Framework

2.3.1 Policy Framework

The Ministry with broad portfolio responsibility for the construction sector is the Ministry of Transport and Works[11]**,** which provides the overall policy framework to guide the development of the construction sector in Jamaica**.** In addition, the Ministry of Water and Housing has responsibility for the development of housing solutions in Jamaica, which includes residential construction. The Ministry of Transport and Works recently led the preparation of the draft Construction Industry Policy, aimed at providing a consistent policy framework for the development of the sector. The draft policy seeks to address a range of issues including:

- encouragement of wider participation in the industry;
- encouragement of innovation in and modernization of the industry;
- promoting regional cooperation;
- creation of an enabling and facilitating regulatory environment;
- improved construction management and greater competitiveness;
- sustainable economic growth and development of the sector;
- incorporation of the informal sector into formal sector activity;
- safety and security issues including extortion;
- quality and environmental factors;
- registration of professionals and enterprises;
- refinement of procurement rules; and
- development of skill levels in the construction industry, with special emphasis on training and certification.

[10] Electrical inspections are required for all new building units or expansion/modification to existing units.
[11] Reorganized as part of the Ministry of Housing, Transport, Water and Works from April 2006-September 2007.

However the new Construction Industry Policy has remained at the draft stage since 2004, and its finalization and promulgation needs to be a priority for the sector. The Vision 2030 Jamaica Construction Sector Plan seeks to build on the policy and development framework for the sector, including the draft Construction Industry Policy, to ensure consistency and continuity of the long-term planning for the sector.

2.3.2 Legislative and Regulatory Framework

The main legislation that is relevant to the construction sector in Jamaica includes the following:

- Labour Relations and Industrial Disputes Act
- Natural Resources Conservation Authority Act
- Parish Councils Building Act
- Professional Engineers Registration Act
- Quarries Control Act
- The Architects Registration Act
- The Cement Industry (Encouragement and Control) Act
- The Companies Act
- The Contractors Levy Act
- The Design Act
- The Fair Competition Act
- The Housing Act
- Town and Country Planning Act
- Local Improvements Act
- Women (Employment of) Act
- Workmen's Compensation Act

These pieces of legislation will be reviewed over time and, where appropriate, revisions to existing legislation and development of new legislation will be considered.

2.3.3 Institutional Framework

The main institutions that play key roles in the construction sector are outlined in Table 1.

Table 1: Institutional Framework for Construction Sector

Institutions	Roles and Functions Relevant to Construction Sector
GOVERNMENT	
Ministry of Transport and Works Agencies: - National Works Agency (NWA)	• Responsibility for setting national policy on transport and works • Oversight of agencies involved in development of construction sector including - Main public sector agency responsible of construction and maintenance of roads and other infrastructure in Jamaica

Institutions	Roles and Functions Relevant to Construction Sector
- National Road Operating and Construction Company (NROCC)	- Public sector company responsible for development of Highway 2000
Ministry of Water and Housing <u>Agencies:</u> - Housing Agency of Jamaica (HAJ)	• Responsibility for setting national policy on housing and water • Oversight of agencies involved in development of residential construction sub-sector - Public sector agency responsible for development and financing of middle-income housing projects
Ministry of Finance and the Public Service (MFPS)	• Responsibility for GOJ fiscal and monetary policies • Overall responsibility for budgeting for public sector
Office of the Prime Minister (OPM) <u>Agencies:</u> - National Housing Trust (NHT) - Urban Development Corporation (UDC)	• Responsibility for setting national policy on planning and development • Oversight of specific agencies involved in housing and land development - Public sector agency responsible for development and financing of housing projects - Statutory corporation responsible for urban development and land development projects
National Contracts Commission (NCC)	• Independent commission with responsibility to promote efficiency and transparency in the award of government contracts including for construction projects • Maintains register of eligible construction companies
Office of the Contractor General	• Responsible to ensure a corruption-free, transparent, competitive, fair and efficient public sector procurement process • Monitors and investigates the award of Government contracts, licenses and permits
National Environment and Planning Agency (NEPA)	• Preparing development plans and development orders at the national and parish levels • Processing applications for development of land • Environmental management and conservation
Jamaica Trade and Invest (JTI) (formerly JAMPRO)	• Main agency responsible for promotion and facilitation of trade and investment opportunities in Jamaica including construction projects
Bureau of Standards	• Responsible for metrification, standards, weights and measures
Planning Institute of Jamaica (PIOJ)	• Technical analysis in support of economic and social development • Co-ordination and management of funding development assistance projects • Facilitation of Vision 2030 Jamaica - National Development Plan

Institutions	Roles and Functions Relevant to Construction Sector
HEART / NTA	• Premiere skills training institution in Jamaica including training programmes for the construction sector • VTDI
Local Authorities (Parish Councils, KSAC, Portmore Municipal Council, Negril/Green Island Local Authority)	• Responsible for processing applications for sub-division and development of land, and participate in forward planning at parish level • Provision of municipal services
Port Authority of Jamaica	• Main statutory body responsible for regulation and operation of seaports including construction of maritime infrastructure
PRIVATE SECTOR	
Incorporated Masterbuilders Association of Jamaica (IMAJ)	• Association which represents building contractors and construction companies in Jamaica
Construction Industry Council	• Umbrella organization that represents the interests of construction companies, professional firms and other private sector entities
<u>Professional Associations:</u> - Jamaica Institute of Architects (JIA) - Jamaican Institution of Engineers (JIE) - Jamaica Institution of Quantity Surveyors (JIQS) - Land Surveyors' Association of Jamaica (LSAJ) - Jamaica Institute of Planners - Jamaica Institute of Environmental Professionals - Realtors Association of Jamaica	• Professional associations which seek to represent the interests of professionals involved in various aspects of the construction sector in Jamaica
Jamaica Developers Association	• Association which seeks to represent the interests of land developers in Jamaica
<u>Other Industry Associations:</u> - Hardware Merchants Association - Electrical Contractors Association of Jamaica	• Other associations which seek to represent the interests of other private sector stakeholders in the construction sector including hardware merchants, electrical contractors
Private Sector Developers	• Private sector companies and individuals who undertake land development and construction projects including telecommunications companies

Institutions	Roles and Functions Relevant to Construction Sector
CIVIL SOCIETY	
Trade Unions	• Labour organizations that represent the interests of the work force in the construction sector, including the BITU, NWU, UAWU, JCTU, TUC
Construction Resource and Development Centre (CRDC)	• Not-for-profit NGO established in 1983 to work toward improving shelter standards in Jamaica and the Caribbean
Women's Construction Collective	• Not-for-profit NGO established to improve the status and participation of women in the construction sector in Jamaica
Environmental Non-Governmental Organizations (ENGOs) and Community-Based Organizations (CBOs)	• Civil society organizations with active roles in environmental conservation and natural resource management at the national, parish and community levels
Academic Institutions: - University of Technology (UTech) - University of the West Indies (UWI)	• Regional and national tertiary institutions granting degrees in architecture, engineering, technology, applied sciences and commercial subjects
International Development Partners (IDPs)	• Multi-lateral and bilateral donor and lending institutions that provide funding and technical assistance for implementation of construction-related projects (e.g. Northern Coastal Highway Improvement Project)

2.4 Sector Structure

2.4.1 Companies and Professional Enterprises

The construction sector comprises a wide range of companies and professional enterprises including the following:

- Construction companies
- Professional firms
- Suppliers of raw materials, products, fixtures, equipment hireage and supporting services
- Transport and logistics companies
- Public sector entities and agencies
- Private sector clients

The local construction sector shows a dichotomy in ownership with the majority of construction firms being locally owned, while there are a small number of large construction companies that typically undertake major construction projects including large infrastructure and tourism projects. However in many cases local construction companies are involved as sub-contractors on such projects.

There are a total of 487 contractors currently registered with the National Contracts Commission (NCC)[12]. Construction companies are classified into grades for each category of construction service that they provide[13], with most companies providing more than one category of construction service. As shown in Table 2 below, a total of 63 contractors currently registered with the National Contracts Commission (NCC) are classified as Grade 1 in at least one category of service. Some 67 contractors have Grade 2 classification as their highest classification, while 90 contractors have Grade 3 classification as their highest classification. A total of 236 contractors are classified no higher than Grade 4 in any category of service. In addition there are 31 contractors currently classified as Grade 5.

Table 2: Classification of Contractors Registered with the NCC

Grade (1)	Number of Contractors
1	63
2	67
3	90
4	236
5	31
Total	487

Source: Compiled by PIOJ from data sourced from the website of the Office of the Contractor-General (www.ocg.gov.jm)
(1) Represents highest classification in any category of construction service

While there is limited information on the relative size of construction companies in the sector, the table above shows that over 73% of the registered contractors are classified as Grade 3 or below, indicating that the majority of companies in the sector are relatively small with limited capacity. It is further worth noting that the Grade 1 contractors are pre-qualified to a maximum of $150 million (approximately US$2 million) per contract[14], a level that is relatively small by global standards.

2.4.2 Labour Force

The labour force represents a key component of the construction sector. While there is not yet comprehensive data on the full composition of the labour force in the construction sector, the main source of information is the annual publication *The Labour Force* produced by the Statistical Institute of Jamaica (STATIN). Based on this source, Table 3 indicates that the total available labour force in the construction sector has increased from 107,500 in 2002 to 127,300 in 2008, while the employed labour force in the sector has increased from 90,400 to 106,100 over the same period.

[12] Based on listing provided at www.ocg.gov.jm (accessed on November 28, 2007).
[13] Grades range from Grade 1 (highest) to Grade 5 (lowest). Contractors are classified based on a range of criteria including experience, annual value of work, financial capability and level of staffing.
[14] Contracts over $150 million require specific pre-qualification.

Based on this table, the construction sector accounted for 9.8% of the total labour force in Jamaica, in October 2008, up from 9.6% in 2002. The major occupation category in the sector is Craft and Related Trades Workers, accounting for 86,200 persons, or 67.7% of the construction sector labour force in October 2008. Of the number of persons employed in the construction sector in October 2008, 95.3% were male, the highest gender disparity of any economic sector in Jamaica.

Table 3: Construction Sector Labour Force 2002 - 2008

Labour Force Indicators (1)	**2008**	**2002**
Total Labour Force – Construction and Installation Sector	127,300	107,500
Total Labour Force – Jamaica	1,302,400	1,114,100
Total Labour Force – Construction and Installation as % of Jamaica	9.8%	9.6%
Total Labour Force – Construction and Installation by Occupation:		
Professionals	3,800	2,900
Clerks	1,000	1,100
Service Workers	400	200
Skilled Agricultural and Fishery Workers	100	0
Craft and Related Trades Workers	86,200	78,800
Plant and Machine Operators	1,500	900
Elementary Occupations	34,300	23,700
Total Employed Labour Force – Construction and Installation	106,100	90,400
Total Employed Labour Force – Jamaica	1,167,800	942,300
Employed Labour Force – Construction and Installation as % of Jamaica	9.1%	9.6%
Male Employed Labour Force – Construction and Installation	101,100	86,100
Male Employed Labour Force – Construction and Installation as %	95.3%	95.2%
Female Employed Labour Force – Construction and Installation	5,000	4,300
Female Employed Labour Force – Construction and Installation as %	4.7%	4.8%

Source: The Labour Force 2008, 2003 (STATIN)
(1) As at October 2008 & 2002

Table 4 indicates the level of output of professionals, senior officials and technicians from tertiary institutions in occupations that are relevant to the construction sector from 2006 - 2008. The output of the trained personnel in the technical areas most relevant to the construction sector including architects, engineers, engineering technicians, land surveyors and planning and construction professionals and technicians has been variable over the past three (3) years, with a decline in some professions. This may be contrasted with the steady increase in the output of accountants, managers and administrators over the same period. It should also be noted that the

output of engineers from 2006 – 2008 exceeded the combined output of medical doctors and attorneys over the same period.[15]

The output of occupations related to the construction sector also reflects the gender disparity of the construction labour force, with a significant majority of the trained persons in these occupations being male. This disparity is even more striking, as the overall output of professionals, senior officials and technicians from tertiary institutions increasingly reflects a majority of females, who accounted for 70% of the total output of professionals, senior officials and technicians in 2008.

Table 4: Output of Professionals, Senior Officials and Technicians 2006 – 2008

OCCUPATION	2006			2007			2008		
	Male	Female	**TOTAL**	Male	Female	**TOTAL**	Male	Female	**TOTAL**
Accountants	403	641	**1,044**	570	1,298	**1,868**	551	1,379	**1,930**
Managers/Administrators	992	2,443	**3,435**	1,107	2,865	**3,972**	1,132	2,576	**3,708**
Engineers	157	22	**179**	90	24	**114**	235	31	**266**
Engineering Technicians	48	1	**49**	82	9	**91**	1	0	**1**
Economists	32	51	**83**	58	112	**170**	21	55	**76**
Architecture (Prof. & Technicians)	24	7	**31**	16	15	**31**	57	24	**81**
Land Surveyors (Prof. & Technicians)	17	7	**24**	55	34	**89**	49	20	**69**
Planning and Construction (Prof. and Technicians)	61	16	**77**	76	7	**83**	112	37	**149**
Mathematicians	4	11	**15**	10	11	**21**	25	29	**54**
Computer Operators/Programmers	125	76	**201**	151	86	**237**	288	151	**439**
Computer Technicians	351	280	**631**	381	287	**668**	78	87	**175**
Engineers/Deck Officers	83	26	**109**	85	23	**108**	56	15	**71**
TOTAL OUTPUT AT TERTIARY LEVEL	4,937	9,869	**14,806**	4,669	10,699	**15,368**	4,191	9,762	**13,953**

Source: ESSJ (2008) Compiled from data supplied by the University of the West Indies, University of Technology and other Tertiary Institutions.

Another indication of the level of adequacy of the labour force is provided by the degree to which the sector has had to import personnel to meet its requirements. Data provided by the Ministry of Labour and Social Security indicate that a total of 1,929 work permits were approved for the construction sector over the 2-year period October 2005 to November 2007. The main categories included architects (33), carpenters (197), department managers (331), cement finishers (46), construction brick layers (33), construction labourers (70), construction mechanics (40), construction operators (43), electricians (48), engineers (322), metal plate benders (27), plasterers (33), plumbers (62), tile setters (169), land surveyors (24) and welders (36).

[15] A total of 428 medical doctors and attorneys were trained over the period 2006-2008 compared to 559 engineers (ESSJ 2008).

2.5 Sector Development

2.5.1 International Competitiveness

The domestic construction sector comprises construction companies, professional firms, suppliers, transport and logistics companies, and other enterprises. The international competitiveness of these enterprises is affected by a number of factors including the following:

- Limited economies of scale
- Low levels of innovation, research and technology
- Limited application of modern business methods and management systems
- Inadequate number of experienced professionals and technical staff in certain areas
- Constraints in business environment and infrastructure

The long-term development of the construction sector in Jamaica will involve the need to achieve international competitiveness in its performance. This is required for local firms to be able to compete with international firms for construction projects in the domestic economy as well as to be able to export construction services successfully to regional and international markets. Segments of the construction sector in Jamaica are relatively shielded from international competition, such as small construction projects for individual homes and projects in remote locations, which are less attractive or accessible to foreign companies or providers of construction services. The areas most impacted by international competition are large construction projects including road construction, airport construction, hotel and resort developments, and other large, specialized construction projects. These areas have seen increased penetration of foreign-owned companies which enjoy advantages of greater economies of scale and access to technical and financial resources. This trend relates to both government and private sector construction projects.

As the Jamaican economy benefits from the performance of construction projects at the highest possible levels of quality and efficiency, the development of the construction sector will have to ensure that the participation of local construction companies, professionals and suppliers takes place through the enhancement of their international competitiveness.

The construction sector therefore has to consider whether local firms should seek to achieve international competitiveness in all areas of construction, including large, specialized projects. The construction sector faces the following strategic choices for its long-term development:

i) allow local companies to find segments of the construction sector in which they can achieve and maintain competitiveness, while allowing foreign companies to continue to dominate large, specialized construction projects;
ii) provide a structured plan to develop the capacity of local companies to compete for large, specialized construction projects in domestic, regional and international markets.

The resolution of these choices will have an important influence on the long-term planning for the construction sector in Jamaica.

2.5.2 International Best Practice in Construction Sector Development

The development of the construction sector in Jamaica can benefit from the examples of international best practice in construction sector development. The comparative experiences considered as relevant to Jamaica include the United Kingdom, which has longstanding relationships with the Jamaican economy and construction sector, and Malaysia, a developing country with a dynamic construction sector.

United Kingdom

The United Kingdom has undertaken a systematic programme of development of their construction sector over the past decade. The approach has been represented by a number of key documents including the Latham Report of 1994, the Egan Report of 1998 (*Rethinking Construction*) and the Draft Strategy for Sustainable Construction (July 2007). The main elements of the UK approach to development of the construction sector included the following:

- Committed industry leadership
- Increased focus on the customer
- A quality driven agenda
- Integrated project processes and teams around product development, project implementation, partnering the supply chain and production of components
- Decent and safe working conditions and improved management and supervisory skills at all levels
- Increased use of standard components and processes for ease of construction
- Replacement of competitive tendering with long-term relationships based on clear measurement of performance and sustained improvements in quality and efficiency
- Applying lean thinking in construction including reduction in waste and non-value-added activities
- Sustainable use of raw materials, natural resources and energy

Through these approaches the construction sector in the UK was able to target significant improvements in performance, including reductions in construction cost and time, reduction in defects in projects, increased number of projects completed on time and within budget, and increased productivity, turnover and profits of construction firms. The real gross value added by the construction sector in the UK has increased by an annual average of 2.8% over the period 2002 - 2006, compared with overall economic growth of 2.7% in real terms over the same period.[16]

Malaysia

Malaysia provides an example of a developing country that also has adopted a strategic approach to the development of its construction sector. In 2005 Malaysia completed the preparation of a Master Plan to guide the development of the sector over the ten (10) year period from 2006 to 2015. The Malaysian Construction Industry Master Plan identified the following key strategic thrusts for the development of the sector:

[16] United Kingdom National Accounts – The Blue Book 2007.

- Integrate the construction industry value chain to enhance productivity and efficiency
- Strengthen the construction industry image
- Strive for the highest standard of quality, occupational safety and health, and environmental practices
- Develop human resource capabilities and capacities in the construction industry
- Innovate through research and development and adapt new construction methods
- Leverage on information and communication technology in the construction industry
- Benefit from globalization including the export of construction products and services

As with the UK approach, the Malaysian Master Plan recommended the consolidation of the construction sector, strengthening professionalism and the application of research and technology, and encouraged the sharing of best practices within the sector. These strategies also are relevant for the development of the Jamaican construction sector.

The structure for implementation of the Malaysian Master Plan included the role of the Construction Industry Development Board, which has broad representation from construction industry stakeholders and the overall responsibility for monitoring the progress of the CIMP implementation process.

The Malaysian construction sector has seen healthy growth at an average rate of 7.2% per year in the 1990s, but took a dip in 2005 and 2006 where the sector contracted by1.6% and 0.5% respectively, following a 1.5% down-turn in 2004. However, following the launch of the Construction Industry Master Plan construction activities showed a positive 0.6% growth during the fourth quarter of 2006 which paved the way for an even stronger growth indicator of 4% during the first quarter of 2007. Under the Master Plan the Malaysian construction sector is targeting an increase in its presence and stature as a global player by 2013 - 2015.

2.5.3 Partnering and Competitive Tendering

One of the strategic approaches applied by the UK and Malaysia has been the development of partnering in the construction value chain. Partnering involves two or more organizations in the construction sector working together to improve performance over time through agreeing mutual objectives, devising a way for resolving any disputes and committing themselves to continuous improvement, measuring progress and sharing the gains. The UK experience indicates that where partnering is used over a series of construction projects it is possible to achieve reductions in cost on construction projects of up to 50% and time savings of as much as 80%.[17]

However, the application of partnering requires a rethinking of the traditional approach to procurement in the construction sector through the practice of competitive tendering. Competitive tendering, particularly in public sector projects, may provide a mechanism for transparency in procurement. However, competitive tendering reduces the opportunity for collaborative relationships between clients and construction companies, and promotes the allocation of projects on the basis of lowest cost rather than best value.

[17] *Rethinking Construction*, p. 9.

By contrast, partnering allows the development of integrated teams which can radically improve their combined efficiency by continuous learning over repeated projects, and provide benefits of improved quality and lower costs over the lifetime of a project (as opposed to lowest initial bid). The application of partnering seeks to allow the construction sector to capture and share the benefits of integrating the value chain between clients, producers and suppliers that have already been demonstrated in other industries such as automobile manufacturing and retail distribution.

The experience of other countries has shown that it requires commitment and leadership to enable a change in the culture of the construction sector to allow the introduction and widespread application of alliances and partnering. Often this approach has required the public sector to undertake demonstration projects that can provide examples of the benefits that can be achieved. The Egan Report that contributed to the transformation of the UK construction sector recommends that ways be found to reduce the need for tendering in order to access the saving possible from greater application of alliances and partnering in the construction procurement process.[18]

2.6 Issues and Challenges

The main challenges confronting the long-term growth of the construction sector include the following:

2.6.1 Human Resource Development

The sector suffers from shortages of skilled construction workers. This factor has affected a number of major projects in recent years, and has consequently led to an importation of skilled workers (e.g. from the Dominican Republic, China and other countries) to fill the existing gaps. Measures will be required for the long-term development of the human resources component of the sector including:

- Expansion of training and certification programmes
- Tertiary education and professional development
- Transfer of technology from overseas companies
- Improvement in project management skills
- Labour market reform
- Improvement in industrial relations
- Regional collaboration in training
- International standards of occupational health and safety to protect the workforce
- Application of gender mainstreaming practices to address the gender imbalance in the industry

2.6.2 Weaknesses in the Land Development Approval Process

The construction sector also is affected by weaknesses in the land development approval process which must be addressed, including:

[18] *Rethinking Construction*, p. 31.

- Delays in the processing of land development approvals and environmental permits that lead to increased costs and uncertainties for developers and construction companies
- Outdated provisions and weak enforcement of the laws governing land development and building
- Lack of up-to-date Development Orders for many parishes leading to sub-optimal use of land resources

2.6.3 Competition from Overseas Companies

The local private sector construction firms face competition from overseas construction companies which enjoy competitive advantages including access to capital and technology particularly for large projects which may exceed the capacity of local firms. Another problem that may impact local contractors arises on occasions when foreign companies use construction equipment imported duty-free for particular projects to compete for other projects for which duty-free concessions do not apply. The capacity of local construction firms to participate in major projects should be facilitated including through access to information in procurement processes and opportunities to collaborate with other overseas and local firms, including through establishment of requirements for participation by local firms on major construction projects.

2.6.4 Supply of Cement and Other Raw Materials

The supply of cement, a key raw material for the construction sector, is tied to a local monopoly enjoyed by Caribbean Cement Company Limited, which in recent years has demonstrated capacity and quality constraints that may affect the growth of the sector. It is expected that in the long run the sector will benefit from liberalization of the production and import regime for cement in Jamaica. While most other building materials for the construction sector are available from local sources or through imports in the long run the sector may be affected by increases in prices or shortages for key inputs (e.g. steel) in world markets as demand by other developing countries such as China increases. The country also should ensure that its trade policy supports the requirements of the construction sector and other productive sectors for competitive access to sources of raw materials and supplies.

2.6.5 Need to Increase Standards and Performance

The standards and performance of the sector will require constant upgrading to increase its competitiveness and efficiency. The potential measures to increase performance standards and competitiveness of the construction and housing sector include:

- Establishment of national quality specifications
- Establishment and maintenance of register of contractors and construction enterprises
- Adherence to relevant environmental legislation, regulations and standards
- Incorporation of energy conservation and efficiency in planning, design and implementation of construction projects
- Research and development in building technology including collaboration between construction firms, public sector, universities and research institutes, and international organizations

- Adoption of industry best practices from regional and international counterparts
- Enhancing policy and regulatory framework
- Support for role of micro- and small enterprises (MSEs) in the sector
- Establishment of codes of conduct and quality specifications
- Programme to facilitate retooling of the industry

2.6.6 Access to Financing

The sector also has expressed the need for greater access to development financing at competitive rates[19]. Ensuring that contractors receive payments on a timely basis also would improve the financial position for firms in the sector. In this respect, the introduction of a lien law would provide additional recourse for contractors to recover outstanding payments. The cost and collateral requirements for mobilization and performance bonds also reduces the access to financing for the sector.

2.6.7 Extortion and Security Concerns

The construction industry due to its visibility and high employment of labour has traditionally been a target for extortion demands as well as other security concerns which lead to increased costs and delays in completion of construction projects.[20] This challenge may require strengthening security measures for the protection of the industry in particular areas, as well as longer term changes in the crime and national security environment within which the industry operates.

2.6.8 Environmental Sustainability

The construction sector, like other productive sectors, faces challenges to its environmental sustainability. It impacts the natural environment through consumption of resources including land, water and energy, through generation of waste and pollution, and contribution to climate change. The construction sector also impacts the built environment through the design, location and aesthetics of buildings and infrastructure. These environmental issues also need to be addressed in planning for the long-term development of the sector.

2.6.9 Informal Sector

The construction sector also is impacted by the relatively high levels of informal activity in the Jamaican economy.[21] The challenges posed by the informal sector, including the difficulties in enhancing standards and productivity and gathering economic data and information, also should be addressed as an important part of the planning for the long-term development of the sector.

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[19] See for example the report of the Joint Consultative Committee for the Building and Construction Industry (2001).
[20] Ibid. p. 14.
[21] A recent study estimated that the ratio of the size of the informal sector to the size of registered GDP in the formal sector was between 40%-44% in 2000-2001 (Robles *et.al.* 2004).

3. SWOT Analysis

Construction is an essential component in the industrialization and sustainable development of nations. A standard tool of strategic analysis is SWOT analysis, which seeks to identify the main strengths, weaknesses, opportunities and threats for a given entity, ranging from a nation to a sector to an individual enterprise. For the Construction Sector in Jamaica the identification of strengths and weaknesses represents the internal assessment of the sector while the consideration of opportunities and threats represents the analysis of the external environment for the sector.

The SWOT analysis, along with the Situational Analysis presented above, forms the basis for identifying goals, objectives and strategies that may be employed to apply the strengths and address the weaknesses of the sector, and capitalize on the opportunities and mitigate the threats to the long-term development of the sector.

The SWOT analysis for Jamaica's Construction Sector is presented in Table 5 below.

Table 5: SWOT Analysis – Construction Sector

Internal Analysis	
Strengths	**Weaknesses**
• Large labour pool available for training • Qualified registered professionals • Good tertiary institutions • School of Architecture at UTech • HEART Trust/NTA as training and certifying agency for construction labour force • Vibrant industry and professional associations • Indigenous raw materials (e.g. sand, gravel, aggregate)	• Inadequate number of experienced professionals, technical staff and skilled workers in certain areas • Large variability within the industry particularly in the amount of workload from GOJ • High collateral requirements for bonding in the financial sector including mobilization and performance bonds • High cost of professional indemnity insurance • Delays in development approvals process • The absence of a construction industry policy • Lack of best practice standards and codes of conduct • Lack of licenses for contractors and building trades specialists • Lack of adequate health and safety standards and enforcement of same • Low labour productivity in construction sector

	• Low use of information technology • Very low levels of research and development (R&D) in sector • Lack of compliance with and enforcement of environmental standards • Inadequate provision of information on upcoming construction projects • Lack of enforcement of construction standards and specifications • Lack of vision and long-term development plans for sector • Too few medium to large Jamaican contractors and professional firms • High cost of financing • High transport costs • Lack of enforcement of professional registration acts • No margin of preference for Jamaican contractors and professionals in procurement • Lack of on-time and on-budget performance • Inadequate preparation for preliminary activities (e.g. land acquisition, etc.) • Lack of customer/end-user focus/involvement in industry • Highest level of gender disparity of any economic sector in Jamaica
External Analysis	
<u>Opportunities</u> • Strategic national development projects including tourism development projects and bauxite expansion • Caribbean and regional development projects • Caribbean Single Market and Economy (CSME) • Collaboration with regional and national training institutions • Continued demand for housing and development	**<u>Threats</u>** • Competition from international and Caribbean providers of construction and technical services • High crime rate including extortion • High taxation levels including transfer tax • Vulnerability to natural hazards including hurricanes and earthquakes • Impact of depreciation of Jamaican dollar on the cost of imported inputs • Low growth in overall economy • Global economic downturn which may reduce the demand for construction projects

4. Strategic Vision and Planning Framework

The long-term process of planning for the Construction Sector is guided by a Vision that describes a future for the sector that is desirable for its stakeholders and that can be achieved through their own efforts within a realistic time frame. The Sector Plan provides an overall Vision for the Construction Sector, which is based on the National Construction Policy. The Vision also reflects the contributions of the stakeholders represented on the Construction Task Force during the Vision 2030 Jamaica planning process.

4.1 Vision Statement

The Vision Statement for the Construction Sector within the context of the Vision 2030 Jamaica – National Development Plan is:

"A dynamic and internationally competitive construction sector that fosters sustainable development and economic growth"

4.1.1 Strategic Vision

The long-term strategic vision for the Construction Sector in Jamaica is built on a number of fundamental elements, including the following:

i) A Construction Sector that is built on competitive performance by sector enterprises in Jamaica;

ii) A Construction Sector that contributes to international competitiveness to other productive sectors of the Jamaican economy through provision of construction services at levels of efficiency and cost comparable to international benchmarks;

iii) A Construction Sector that is guided by a policy and regulatory framework that fosters competition and transparency;

iv) A Construction Sector that is environmentally sustainable with significantly reduced harmful environmental impacts;

v) A Construction Sector that possesses the flexibility and creativity to adopt and adapt new construction technologies that may emerge over the long term;

vi) A Construction Sector that provides viable, respected careers.

This strategic vision is expressed in the strategic framework for the Construction Sector for Vision 2030 Jamaica presented below.

4.2 Strategic Planning Framework

4.2.1 Strategic Approach

The construction sector is, and will remain, a fundamental component of Jamaica's economy. The fundamental strategic approach taken by Vision 2030 Jamaica to improve the performance and competitiveness of the construction sector is to address the fundamental problem in the sector, which is that the labour productivity of the construction sector is one of the lowest in the Jamaican economy. The productivity of the construction sector is based on: the levels of capital investment and technology applied in the sector; the quality of the labour force; and the effects of the business environment and other factors on the competitiveness of the sector. To improve productivity, the Construction Sector Plan therefore focuses on the following areas: [22]

- Capital deepening
- Labour force quality
- Total factor productivity

Vision 2030 Jamaica emphasizes improvement in the quality of the human resources for the construction sector through improved education, training, certification, registration and licensing of the labour force at all levels from operatives to professionals. In this regard the sector plan includes strategies to: collaborate with tertiary educational institutions to inspire and strengthen development of professionals for the construction sector; establish training needs for the construction sector; expand and accelerate relevant certification and accreditation programmes; establish a licensing system and an improved registration and classification system for contractors, professionals and operatives in the sector; ensure compensation systems that are consistent with skill and productivity levels; encourage participation of women in the sector; and build capacity of micro-, small and medium-sized enterprises (MSMEs) in the construction sector.

The Construction Sector Plan also seeks to increase productivity through capital deepening by enhancing the conditions for financing, capital investment and the application of technology in construction. The plan includes key strategies to: encourage and participate in simplifying tax payment processes; improve access to sources of capital for construction projects; encourage competitive interest rates on financing for the construction sector; include use of construction management systems, modern and appropriate equipment and techniques as criteria for registration and qualification of contractors; develop awareness and capacity of contractors in use of ICT; and increase funding for research in the construction sector.

[22] Capital deepening refers to increasing the ratio of capital to labour, while total factor productivity measures the contribution of all other inputs other than the increase of capital and labour inputs.

To improve total factor productivity for the construction sector, Vision 2030 Jamaica provides a range of strategies, including to: Coordinate and align the construction policy with other policies that affect the construction sector; support and participate in strengthening and improving the planning and land development system; encourage and participate in improving customs processes and business establishment and operation processes; and establish special security measures for construction projects in crime-prone areas. Other strategies focus on increasing the customer focus of construction enterprises and strengthening the competitiveness of the construction sector value chain.

The Construction Sector Plan attaches special importance to the role of leadership in the public and private sectors and the trade unions in the development of the sector, through strategies to: undertake demonstration projects that embody best practices in construction; develop Public Private Partnerships (PPPs) in the construction sector; establish the Construction Industry Development Board (CIDB); disseminate timely and accessible information on public sector projects; and strengthen and improve the government contracting system for construction projects.

Vision 2030 Jamaica will enhance the environmental sustainability of the construction sector through a strategic approach to: develop greater reuse and recycling of construction materials; encourage the construction sector to adopt and achieve ISO14001 environmental standards and certification; encourage compliance with environmental laws and regulations; increase use of environmentally friendly materials; and reduce the carbon footprint of the construction sector through energy efficiency and other measures.

Vision 2030 Jamaica also seeks to widen the opportunities for local construction companies to compete in the domestic market, and to access export opportunities in regional and international markets for construction services.

4.2.2 Goals and Outcomes

The eight (8) main goals and associated outcomes of the Construction Sector Plan are presented in Table 6 below. The Sector Goals represent the ultimate desired state of the Construction sector through which we realize the Sector Vision. The Sector Outcomes represent the desired results which we seek to achieve under each goal. A range of indicators and targets aligned to the Sector Outcomes provides quantitative milestones against which progress in implementing the Construction Sector Plan over time may be measured.

Table 6: Construction Sector Goals and Outcomes

GOALS	OUTCOMES
1. Development of Competent and Adequate Human Resources	1.1 Provision of Work Force with Skills, Training and Education to Meet the Dynamic Needs of Sector
	1.2 High Levels of Employment of Construction Work Force
	1.3 High Level of Professionalism in Sector
	1.4 Encouragement of Entrepreneurship

2. Enabling and Facilitating Framework and Business Environment	2.1 Appropriate Policies, Legislation and Regulations for Long-Term Development of the Sector
	2.2 Improved Land Use Planning and Development Approval System
	2.3 Supporting Financial Environment
	2.4 Strengthened Industry Associations to Foster Cohesion in National Development and Access to International Markets
	2.5 Streamlined and Facilitatory Bureaucracy
	2.6 Reduction of Informal Activity in the Sector
	2.7 Improved Security Conditions
3. Development of Sector in Environmentally Sustainable Manner	3.1 Enhanced Waste Reduction and Disposal
	3.2 Compliance with International and Domestic Environmental Standards
	3.3 Sourcing and Use of Materials in Environmentally Friendly Manner
	3.4 Increased Mitigation and Adaptation to Hazards and Climate Change
4. Application of Technology, Innovation, Research and Development	4.1 Increased Use of Construction Management Systems, Modern and Appropriate Equipment and Techniques
	4.2 Widespread Application of Information and Communication Technology (ICT)
	4.3 Increased Partnerships between Public and Private Sector and Academia in Relevant Research and Innovation
5. Enhanced Customer Focus	5.1 Increased Delivery of Projects that meet Quality, Time and Cost Requirements
6. Committed Leadership by Government, Private Sector and Labour Leaders	6.1 Government, Labour Leaders and Private Sector Players as Exemplars for Sector Development
	6.2 Transparency and Efficiency in the Government Procurement Process
7. Competitive Construction Sector Value Chain	7.1 Increased Use of Life-Cycle Costing and Value Engineering
	7.2 Optimized Procurement Methods and Processes
8. Expansion of Participation in Domestic, Regional and International Markets	8.1 Enhanced Regional Coordination and Cooperation in Development of Regional Framework for Construction Sector
	8.2 Enhanced Regional and International Cooperation and Collaboration by Construction Industry Players
	8.3 Strengthened Participation of Local Construction Enterprises in Domestic Market

4.2.3 Integration with the National Development Plan

Under Vision 2030 Jamaica, each Sector Plan is integrated with the strategic framework of the National Development Plan. The Construction Sector Plan is aligned with the National Development Plan under the following National Goal and National Outcome:

National Goal #3: Jamaica's Economy is Prosperous
National Outcome #12: Internationally Competitive Industry Structures

Consequently the implementation of the Construction Sector Plan will contribute primarily to the achievement of National Goal #3 and National Outcome #12 of the National Development Plan.

4.3 Sector Indicators and Targets

The proposed indicators and targets for the Construction Sector Plan over the period 2009 -2030 are presented in Table 7 below.

Table 7: Construction Sector Plan – Proposed Indicators and Targets

Construction Sector Plan					
PROPOSED OUTCOME INDICATORS	**BASELINE**	**PROPOSED TARGETS**			**COMMENTS**
	2007 or Most current	**2012**	**2015**	**2030**	
% of registered construction companies with NCC that are Grade 1-2 rated (130/487)	26.7%	30%	35%	60%	Proposed improvement of 5% for each period to 2015 and 2% for each three year period thereafter.
Increase in Labour Productivity of Construction Sector (%)	-8.2%	≥ 5.06%	≥ 4.24%	≥ 4.24%	
% of registered operatives that are certified					
% increase in number of contractors that are Grade 1 registered – (civil engineering, building construction, electrical works, mechanical works)					
% increase in number of contractors that are Grade 2 registered – (civil engineering, building construction, electrical works, mechanical works)					
Total number of registered contractors					
% of tradesmen/women in Construction and Installation Sector Labour Force that are certified (Craft and Related Trades Workers & Plant and Machine Operators) (classification of Plant and Machine					

Construction Sector Plan					
PROPOSED OUTCOME INDICATORS	BASELINE	PROPOSED TARGETS			COMMENTS
	2007 or Most current	2012	2015	2030	
Operators) (certification is by HEART)					
% of professionals that are registered					
% annual increase in tertiary graduates in construction sector professionals					
% of registered professionals that are licensed Architects Engineers (Etc.)					
Female Employed Labour Force as % of Total Employed Labour Force - Construction and Installation					
Number of working days lost per 100,000 workers from work related injury and ill health					
Annual incidence rate of fatal and major injury accidents					
Annual number of breaches of building code					
Reduction in time for planning and building approvals					
% change in construction, demolition and excavation waste to landfill					
% of registered construction firms and professionals that are ISO14000 certified					
% of new houses built with renewable energy sources					
% of government buildings with renewable energy sources					
Number of computers per member of staff in construction firms (Grades 1 and 2)					
Number of construction-related research projects annually (academia, research institutes, private sector)					
% of public sector construction projects completed on time and within budget					
(% or number) of public sector construction projects undertaken as demonstration projects					
% change in industrial disputes reported in construction sector					
Labour productivity of construction sector					

Construction Sector Plan					
PROPOSED OUTCOME INDICATORS	**BASELINE**	**PROPOSED TARGETS**			**COMMENTS**
	2007 or Most current	**2012**	**2015**	**2030**	
(% or number) of major public sector construction projects employing value engineering reviews					
% value of major construction projects awarded to local construction companies					
% change in value of export of construction services					

5. Implementation, Monitoring & Evaluation Framework for the Construction Sector

5.1 Implementation Framework

The implementation of the Construction Sector Plan is an essential component of the implementation, monitoring and evaluation framework for the Vision 2030 Jamaica – National Development Plan. The Plan is implemented at the sectoral level by ministries, departments and agencies (MDAs) of Government as well as non-state stakeholders such as the private sector, NGOs and CBOs. The involvement of all stakeholders is fundamental to the successful implementation of the National Development Plan and the Construction Sector Plan.

Components of Vision 2030 Jamaica

The Vision 2030 Jamaica - National Development Plan has three (3) components:

1. **Integrated National Development Plan:**
   The integrated National Development Plan presents the overall plan for Vision 2030 Jamaica, integrating all 31 sector plans into a single comprehensive plan for long-term national development. The integrated National Development Plan presents the National Vision, the four National Goals and fifteen National Outcomes, and the National Strategies required to achieve the national goals and outcomes.
2. **Medium Term Socio-Economic Policy Framework (MTF):**
   The Medium Term Socio-Economic Policy Framework (MTF) is a 3-yearly plan which summarizes the national priorities and targets for the country and identifies the key actions to achieve those targets over each 3-year period from FY2009/2010 to FY2029/2030.
3. **Thirty-one (31) Sector Plans:**
   At the sectoral level Vision 2030 Jamaica will be implemented through the strategic frameworks and action plans for each sector as contained in the respective sector plans. Vision 2030 Jamaica includes a total of thirty-one (31) sector plans covering the main economic, social, environmental and governance sectors relevant to national development.

5.1.1 Accountability for Implementation and Coordination

The Cabinet, as the principal body with responsibility for policy and the direction of the Government, has ultimate responsibility for implementation of the National Development Plan. Each ministry and agency will be accountable for implementing the National Development Plan

(NDP) through various policies, programmes and interventions that are aligned with the strategies and actions of the NDP and the sector plans. A robust results-based monitoring and evaluation system will be established to ensure that goals and outcomes of the Plan are achieved. This system will build on existing national and sectoral monitoring and evaluation frameworks and will be highly participatory.

5.1.2 Resource Allocation for Implementation

Vision 2030 Jamaica places great emphasis on ensuring that resource allocation mechanisms are successfully aligned and integrated with the implementation phase of the National Development Plan and sector plans. The requirements to ensure resource allocation for implementation will include alignment of organizational plans in the public sector, private sector and civil society with the National Development Plan, MTF and sector plans; coherence between the various agency plans with the National Budget; rationalization of the prioritization process for public sector expenditure; and increased coordination between corporate planners, project managers and financial officers across ministries and agencies.

5.2 Monitoring and Evaluation Framework

5.2.1 Institutional Arrangements

A number of institutions and agencies, including the following, will be involved in the monitoring and evaluation framework for the National Development Plan and the Construction Sector Plan:

1. **Parliament**: The Vision 2030 Jamaica Annual Progress Report will be presented to the Parliament for deliberations and discussion.

2. The **Economic Development Committee (EDC)** is a committee of Cabinet chaired by the Prime Minister. The EDC will review progress and emerging policy implications on the implementation of Vision 2030 Jamaica and the relevant sector plans.

3. The **Vision 2030 Jamaica Technical Monitoring Committee (TMC)**, or Steering Committee, is to be chaired by the Office of the Prime Minister and will provide oversight for the technical coordination and monitoring of the Plan and reporting on the progress of implementation.

4. The **Vision 2030 Jamaica Technical Secretariat** to be institutionalized within the PIOJ will play a leading role in coordinating implementation, analyzing social and economic data and information, consolidating sectoral information into comprehensive reports on Vision 2030 Jamaica's achievements and results, maintaining liaisons with sectoral focal points in MDAs, and supporting the establishment and operation of Thematic Working Groups.

5. **Ministries, Departments and Agencies (MDAs)** represent very important bodies within the implementation, monitoring and evaluation system. They are the Sectoral Focal Points that will provide data/information on a timely basis on the selected sector indicators and action plans, and be responsible for the timely preparation of sector reports that will feed into the Vision 2030 Jamaica Annual Progress Report. For the Construction Sector Plan, the main MDAs comprising the relevant Sectoral Focal Point will include the Ministry of Transport and Works, the National Works Agency and the HEART Trust/NTA.

6. **Thematic Working Groups (TWGs)** are consultative bodies aimed at providing multi-stakeholder participation in improving the coordination, planning, implementation and monitoring of programmes and projects relevant to the NDP and sector plans, including the Construction Sector Plan. TWGs will be chaired by Permanent Secretaries or senior Government officials and shall comprise technical representatives of MDAs, National Focal Points, the private sector, Civil Society Organizations and International Development Partners. TWGs will meet a minimum of twice annually.

5.2.2 Indicator Framework and Data Sources

Appropriate indicators are the basic building blocks of monitoring and evaluation systems. A series of results-based monitoring policy matrices will be used to monitor and track progress towards achieving the targets for the NDP and sector plans, including the Construction Sector Plan. The performance monitoring and evaluation framework will be heavily dependent on line/sector ministries for quality and timely sectoral data and monitoring progress.

The results-based performance matrices at the national and sector levels comprise:

- At the national level, 60 proposed indicators aligned to the 15 National Outcomes
- At the sector level, a range of proposed indicators aligned to the sector goals and outcomes
- Baseline values for 2007 or the most recent past year
- Targets which outline the proposed values for the national and sector indicators for the years 2012, 2015 and 2030
- Data sources which identify the MDAs or institutions that are primarily responsible for the collection of data to measure and report on national and sector indicators
- Sources of targets
- Links to existing local and international monitoring frameworks such as the MDGs

Some gaps still exist within the performance matrix and a process of review to validate the proposed indicators and targets is being undertaken. This process is very technical and time consuming and requires significant cooperation and support from stakeholders and partners. The performance monitoring and evaluation framework will be heavily dependent on ministries for quality and timely sectoral data and monitoring progress. The system will benefit from our existing and relatively large and reliable statistical databases within the Statistical Institute of Jamaica (STATIN) and the PIOJ.

5.2.3 Reporting

The timely preparation and submission of progress reports and other monitoring and evaluation outputs form an integral part of the monitoring process.

The main reports/outputs of the performance monitoring system are listed below.

1. **The Vision 2030 Jamaica Annual Progress Report** will be the main output of the performance monitoring and evaluation system.

2. **The quarterly and annual sectoral reports** compiled by the Sectoral Focal Points for submission to the Vision 2030 Jamaica Technical Monitoring Committee and Thematic Working Groups. These will be integrated into the Annual Progress Report.

3. **Other products** of the performance monitoring system include issues/sector briefs and research reports.

5.2.4 Capacity Development

There is recognition that building and strengthening technical and institutional capacity for the effective implementation, monitoring and evaluation of the NDP and the Construction Sector Plan is critical for success. This calls for substantial resources, partnership and long-term commitment to training MDA staff. Training needs will have to be identified at all levels of the system; a reorientation of work processes, instruments, procedures and systems development will have to be undertaken; and staffing and institutional arrangements will need to be put in place. Partnership with the Management Institute for National Development (MIND) and other institutions also will be required to provide training to public sector staff and others in critical areas such as results-based project management and analysis, monitoring and evaluation, and data management.

5.3 The Way Forward

The Construction Sector Plan represents the basis for implementation of the Vision 2030 Jamaica – National Development Plan in the Construction sector. Some key steps in the implementation process for the Construction Sector Plan are as follows:

1. Undertake consultations with stakeholders in the sector to present and review the Construction Sector Plan for Vision 2030 Jamaica;

2. Engage with key stakeholders including relevant Ministries, Departments and Agencies (MDAs) to finalize sector-level indicators and targets for the Construction sector plan for 2012, 2015 and 2030;

3. Mainstream the Construction Sector Strategic Framework and Action Plan into the Corporate/Business and Operational Plans of the relevant MDAs as the mechanism for implementation in the public sector;

4. Ensure participation by key Construction sector stakeholders in the establishment and ongoing operation of the implementation, monitoring and evaluation framework for Vision 2030 Jamaica, including the Sectoral Focal Point and Thematic Working Group for the Construction Sector Plan.

6. Action Plan for the Construction Sector

The Action Plan represents the main framework for the implementation of the Construction Sector Plan for Vision 2030 Jamaica. The tracking of implementation of the Construction Sector Plan will take place through the Action Plan as well as the framework of sector indicators and targets.

The Action Plan contains the following elements:

i. Sector Goals
ii. Sector Outcomes
iii. Sector Strategies
iv. Sector Actions
v. Responsible Agencies
vi. Time-Frame

VISION 2030 JAMAICA
CONSTRUCTION SECTOR PLAN
DRAFT STRATEGIC FRAMEWORK AND ACTION PLAN

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
Goal # 1: Development of Competent and Adequate Human Resources				
1.1 Provision of Work Force with Skills, Training and Education to Meet the Dynamic Needs of Sector	1.1.1 Increase awareness at primary and secondary levels about careers in the construction sector	1.1.1.1 Encourage field trips to construction-related projects	• MOE, HEART Trust/NTA, Private companies	Ongoing
		1.1.1.2 Introduce career education in curriculum	• MOE	Years 1-3
		1.1.1.3 Increase infusion of construction / engineering / built environment in curriculum and textbooks	• MOE, UTech	Ongoing
		1.1.1.4 Increase participation by construction professionals in career days and presentations	• Schools, UTech, HEART Trust/NTA, Professional and industry associations and private companies	Ongoing
		1.1.1.5 Introduce student internships to construction-related firms	• Schools, UTech, HEART Trust/NTA, Professional and industry associations and private companies	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	1.1.2 Collaborate with tertiary educational institutions to inspire and strengthen development of professionals for the construction sector	1.1.2.1 Establish provisions for student internships to construction-related firms	• Tertiary institutions, private and public companies	Years 1-3
		1.1.2.2 Expand real-world coursework	• Tertiary institutions, private and public companies	Ongoing
		1.1.2.3 Expand role of Pan-American Institute of Highways Resource Centers at UTech and NWA	• UTech, NWA, MTW	Year 1 Ongoing
		1.1.2.4 Strengthen collaboration between construction sector and tertiary institutions and HEART Trust/NTA on curriculum development	• Tertiary institutions, private and public companies, Professional and industry associations, HEART Trust/NTA	Year 1 Ongoing
		1.1.2.5 Develop linkages between tertiary institutions in the region	• Tertiary institutions	Ongoing
		1.1.2.6 Structure requirements and evaluation of professional training period	• Professional boards	Years 1-3
		1.1.2.7 Broaden areas of academic specialization and practical work experience relevant to the construction sector	• Tertiary institutions, UCJ, MIND	Years 1-3 Ongoing
	1.1.3 Establish training needs for the construction sector	1.1.3.1 Conduct baseline surveys on human resource capacity of construction sector	• UTech, HEART Trust/NTA, PIOJ, STATIN, OPM, MTW	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		1.1.3.2 Determine human resource requirements by job category based on projected growth of sector (short-, medium- and long-term)	• UTech, HEART Trust/NTA, PIOJ, STATIN, OPM	Years 2-4
		1.1.3.3 Identify gaps (short-, medium- and long-term)	• UTech, HEART Trust/NTA, PIOJ, STATIN, OPM	Years 2-4
		1.1.3.4 Develop and implement training plan to meet identified needs (short-, medium- and long-term)	• UTech, HEART Trust/NTA, industry and professional associations	Years 2-5
	1.1.4 Develop public/private partnerships with training institutions	1.1.4.1 Provide opportunities for trainers to be exposed in private firms	• Training providers, private and public companies	Ongoing (increasing emphasis)
		1.1.4.2 Ensure representation by construction sector on boards of training institutions	• MOE, Training institutions •	Ongoing
		1.1.4.3 Encourage sponsorship of scholarships by private sector to training institutions	• Professional associations, private and public companies, training institutions	Ongoing
		1.1.4.4 Provide voluntary contribution of time by professionals to training institutions	• Professional associations, private and public companies, training institutions	Ongoing
		1.1.4.5 Support exposure of trainers to new technology	• Professional associations, private and	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		and equipment including overseas visits	public companies, training institutions	
	1.1.5 Expand and accelerate certification and accreditation programmes relevant to the sector	1.1.5.1 Strengthen remedial programmes for construction workers including for literacy	• HEART Trust/NTA, JFLL, Industry enterprises	Years 1-3 Ongoing
		1.1.5.2 Increase exposure to training and certification for best practice	• HEART Trust/NTA, Industry associations, Tertiary institutions	Ongoing
		1.1.5.3 Introduce training for new Building Code	• Industry associations, HEART Trust/NTA • Tertiary institutions	Years 1-3 Ongoing (Code revised every 3 years)
		1.1.5.4 Develop occupational standards for full range and levels of construction workers	• HEART Trust/NTA, Industry associations	Years 1-3
		1.1.5.5 Review and update occupational standards	• HEART Trust/NTA, Industry associations	Ongoing
1.2 High Levels of Employment of Construction Work Force	1.2.1 Encourage efficient labour market in the construction sector	1.2.1.1 Strengthen and integrate mechanisms for matching supply and demand of labour including Electronic Labour Exchange and HEART Placement Programme	• HEART Trust/NTA, MLSS, construction enterprises	Years 1-3 Ongoing
		1.2.1.2 Improve provisions for mobility of workers including ensuring that labour camps meet	• MLSS, MOHE, construction enterprises	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		required standards		
		1.2.1.3 Expand regional diversification of HEART training programmes	• HEART Trust/NTA	Years 1-3 Ongoing
	1.2.2 Ensure opportunities for adequately qualified Jamaican workers to fill available jobs in the construction sector	1.2.2.1 Ensure equitable enforcement of work permit regulations including for the construction sector	• MLSS • Industry associations • Construction enterprises	Ongoing
	1.2.3 Ensure compensation systems that are consistent with skill and productivity levels	1.2.3.1 Promote use of performance-based incentive systems	• Industry associations • Construction enterprises	Ongoing
	1.2.4 Encourage participation of women in the sector	1.2.4.1 Promote employment opportunities in construction sector for women	• HEART Trust/NTA, Industry associations, tertiary institutions, MLSS, JIS	Ongoing
		1.2.4.2 Ensure provision of adequate facilities for women in construction	• Industry associations • Construction enterprises • MLSS	Ongoing
		1.2.4.3 Apply gender-mainstreaming practices in construction policy and practices	• MTW, Industry associations • Construction enterprises • MLSS	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
1.3 High Level of Professionalism in Sector	1.3.1 Establish a licensing system and an improved registration and classification system for contractors, professionals and operatives in the sector	1.3.1.1 Extend licensing requirements (similar to electricians) to relevant categories of construction operatives, including: - Plumbers -	• MWH • HEART Trust/NTA, Industry associations	Years 1-6
		1.3.1.2 Establish periodic requirements for renewal of licensing	• MWH • HEART Trust/NTA, Industry associations	
		1.3.1.3 Establish system of licensing/registration for major categories of professionals in construction sector (with requirements for periodic renewal, requirement for practice, professional development, absence of malpractice/breaches): - Architects - Engineers - Quantity Surveyors - Land Surveyors -	• Professional associations, OPM, MTW, CIC • PERB, ARB	Years 1-3
		1.3.1.4 Establish system of licensing/registration and grading for contractors in construction sector for construction projects of particular size and	• IMAJ, MTW	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		complexity (with requirements for periodic renewal, requirement for practice, business compliance, absence of malpractice/breaches)		
		1.3.1.5 Introduce requirements for employment of certified operatives in construction sector	• MLSS, MTW, MWH, OPM • Industry associations • Construction enterprises	Years 1-9
	1.3.2 Encourage continued professional and skill development	1.3.2.1 Require ongoing professional development as condition of licence renewal etc.	• Professional associations, OPM, MTW, PERB, ARB	Ongoing
		1.3.2.2 Introduce range of programmes for continuing education for construction professionals	• Professional associations, tertiary institutions	Ongoing
	1.3.3 Improve work ethics and attitudes of the work force	1.3.3.1 Strengthen employability skills training for skilled workers and supervisors	• HEART Trust/NTA, MOE, Industry associations and enterprises	Ongoing
		1.3.3.2 Encourage mentorship and role setting by management	• Industry associations and enterprises	Ongoing
		1.3.3.3 Develop and apply appropriate sanctions for breaches of work rules	• Industry associations and enterprises	Ongoing
		1.3.3.4 Encourage leadership training programmes for managers	• Tertiary institutions, industry associations and enterprises	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		1.3.3.5 Encourage participatory decision-making and team building for staff	• Industry associations and enterprises	Ongoing
1.4 Encouragement of Entrepreneurship	1.4.1 Encourage a culture of entrepreneurship and business enterprise development in the construction sector	1.4.1.1 Strengthen entrepreneurial training programmes with focus on construction sector	• HEART Trust/NTA, JBDC, tertiary institutions, JTI, IMAJ, SBAJ, PSOJ	Ongoing
	1.4.2 Build capacity of micro-, small and medium-sized enterprises (MSMEs) in construction sector	1.4.2.1 Provide certified training programmes for MSMEs	• MIIC, JBDC, NCTVET	Years 1-3 Ongoing
Goal # 2: Enabling and Facilitating Framework and Business Environment				
2.1 Appropriate Policies, Legislation and Regulations for Long-Term Development of the Sector	2.1.1 Finalize and promulgate the Construction Industry Policy	2.1.1.1 Revise and Finalize Draft Construction Industry Policy	• MTW	Year 1
		2.1.1.2 Circulate Final Draft Construction Industry Policy for comments	• MTW	Year 1
		2.1.1.3 Table as White Paper in Parliament	• MTW	Year 1
		2.1.1.4 Establish Advisory Body for implementation	• MTW	Year 1
		2.1.1.5 Carry out periodic review and revision of the Construction Industry	• MTW	Every 5 years

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		Policy		
	2.1.2 Coordinate and align the construction policy with other policies that affect the construction sector	2.1.2.1 Review: - National Transport Policy - Road Sector Policy and Master Plan - Energy Policy - Jamaica's Revised Trade Policy - National Industrial Policy - Education: The Way Forward - National Youth Policy - National Policy for Persons with Disabilities - National Policy Statement on Women - National Land Policy - National Solid Waste Management Policy - Sewage Connection Policy - Local Government Reform Policy - Environmental Management Systems Policy and Strategy - Procurement Policy - Other relevant policies	• MTW • OPM (Planning and Development) • CIC • Advisory Board (Construction Industry Development Board) • Local Authorities	Ongoing (Subject to periodic reviews e.g. 3-5 years)
	2.1.3 Review existing legislation affecting the construction sector	2.1.3.1 Review: - Labour Relations and Industrial Disputes Act - Natural Resources	• MTW • Advisory Board • OPM (Planning and	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	and make recommendations for amendments and new legislation where applicable	Conservation Authority Act - Parish Councils Building Act - Professional Engineers Registration Act - Quarries Control Act - The Architects Registration Act - The Cement Industry (Encouragement and Control) Act - The Companies Act - The Contractors Levy Act - The Design Act - The Fair Competition Act - The Housing Act - Town and Country Planning Act - Local Improvements Act - Women (Employment of) Act	Development) • CIC • Local Authorities	
	2.1.4 Participate in development of occupational safety and health legislation and regulations for the construction sector	2.1.4.1 Review international best practices for occupational safety and health legislation and regulations for the construction sector	• CIC/Advisory Board	Years 1-3
		2.1.4.2 Make recommendations based on Jamaican conditions	• CIC/Advisory Board	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		2.1.4.3 Review existing and implement new legislation and regulations as necessary	• MLSS	Ongoing thereafter (Subject to periodic reviews e.g. 3-5 years)
	2.1.5 Ensure conformance to occupational safety and health legislation and regulations	2.1.5.1 Require inclusion of safety policy and/or procedures in pre-qualification and contracts	• MTW, NWA • Public sector and private sector clients • Professionals • MLSS	Year 1
2.2 Improved Land Use Planning and Development Approval System	2.2.1 Support and participate in strengthening and improving the planning and land development system	2.2.1.1 Participate in Legislation and Regulations Review Committee (JCC)	• OPM • MTW • Professional associations • Developers association	Year 1
		2.2.1.2 Participate in committee for 90-day approval process (OPM)	• OPM • MTW • Professional associations • Developers association	Year 1
		2.2.1.3 Participate in long-term reform of planning system (OPM)	• OPM • MTW • Professional associations • Developers association	Year 1
	2.2.2 Ensure compliance with and enforcement of the building code	2.2.2.1 Support finalization and promulgation of new building code	• MTW • CIC	Year 1
		2.2.2.2 Carry out education and training of industry members and professionals and approval agencies on provisions of	• CIC • IMAJ • Professional associations	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		building code		
		2.2.2.3 Support strengthening of capacity of local authorities in monitoring and enforcement of the building code	• CIC • IMAJ • Professional associations	Years 1-3 Ongoing
	2.2.3 Participate in periodic review of planning and land development system and building code and make recommendations for improvements over time	2.2.3.1 Monitor progress of implementation of reforms in planning and land development system and new building code	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
		2.2.3.2 Scan best practices for planning and land development systems and building codes	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
		2.2.3.3 Make periodic recommendations for improvements to planning and land development system and building code	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
		2.2.3.4 Support capacity development of local authorities	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
2.3 Supporting Financial Environment	2.3.1 Encourage and participate in simplifying tax payment processes	2.3.1.1 Encourage industry organizations to review tax reform process and submit comments and recommendations to the Ministry of Finance and the Public Service	• CIC • IMAJ • Professional associations	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		2.3.1.2 Encourage MTW to support recommendations of the sector	• CIC • MTW	Ongoing
	2.3.2 Improve access to sources of capital for construction projects	2.3.2.1 Lobby the Ministry of Finance and the Public Service and the Bank of Jamaica to relax the collateral requirements for construction loans and bonds	• CIC • IMAJ • Professional associations	Years 1-3
		2.3.2.2 Support introduction of a lien law to provide additional recourse for contractors to recover outstanding payments	• MFPS, MTW	Years 1-3
		2.3.2.3 Expand credit facilities for MSMEs	• DBJ, MIIC	Years 1-3
	2.3.3 Encourage competitive interest rates on financing for the construction sector	2.3.3.1 Support establishment of a credit bureau in Jamaica	• CIC • IMAJ	Years 1-3
	2.3.4 Develop capacity of construction enterprises in record keeping, financial reporting, business performance reporting and loan	2.3.4.1 Implement training programmes on business skills for local construction enterprises	• MTW • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	applications	2.3.4.2 Develop and disseminate information on business skills through a range of media channels including electronic and print media	• MTW • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing
		2.3.4.3 Establish service to assist construction enterprises with tax compliance, record keeping, financial reporting, business performance reporting and loan applications	• MFPS • JBDC • IMAJ	Years 1- 3
2.4 Strengthened Industry Associations to Foster Cohesion in National Development and Access to International Markets	2.4.1 Strengthen relevant construction industry associations including: - Incorporated Masterbuilders Association of Jamaica (IMAJ) - Jamaican Institute of Architects (JIA) - Jamaica Institution of Engineers (JIE) - Jamaica Institute of Planners (JIP)	2.4.1.1 Establish joint secretariat for professional associations and CIC	• Professional Associations • CIC	Years 1- 3
		2.4.1.2 Explore self-registration of professionals by associations	• Professional Associations • MTW • OPM	Years 1- 3
		2.4.1.3 Broaden membership of associations	• Professional Associations	Years 1- 3 Ongoing
		2.4.1.4 Strengthen fund-raising capabilities of associations	• Professional Associations	Years 1- 3 Ongoing
		2.4.1.5 Broaden range of services offered to members	• Professional Associations	Years 1- 3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	- Quantity Surveyors - Construction Industry Council			
	2.4.2 Strengthen relationships with other sector associations including: - Jamaica Manufacturers Association - Mining and Quarrying Association of Jamaica - Hardware Merchants Association	2.4.2.1 Establish and strengthen formal linkages between CIC and other sector associations	• CIC	Years 1- 3 Ongoing
	2.4.3 Strengthen regional and international relationships including with Jamaican diaspora	2.4.3.1 Strengthen membership in regional and international professional associations	• Professional Associations	Years 1- 3 Ongoing
		2.4.3.2 Establish linkages with diaspora organizations including the Diaspora Conference	• Professional Associations • MFAFT	Years 1- 3 Ongoing
		2.4.3.3 Develop collaboration with diaspora professionals including through the diaspora skills bank / database	• Professional Associations • MFAFT	Years 1- 3 Ongoing
2.5 Streamlined and Facilitatory Bureaucracy	2.5.1 Encourage and participate in improving customs processes and	2.5.1.1 Strengthen role of CIC and IMAJ in lobbying for improvements in customs processes and business	• CIC • IMAJ • Professional Associations	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	business establishment and operation processes	establishment and operation processes as they affect the construction sector		
	2.5.2 Encourage and participate in improving processes related to land ownership, titling and transfer	2.5.2.1 Encourage and lobby the government to modernize and accelerate the process of issuing and transferring titles	• CIC • IMAJ • Developers Association • Realters Association • Professional Associations	Years 1- 3
		2.5.2.2 Recommend prioritization of land title transactions that involve construction development projects	• CIC • IMAJ • Developers Association • Realters Association • Professional Associations	Years 1- 3
		2.5.2.3 Support Land Titling project of the National Planning Summit	• CIC • IMAJ • Developers Association • Realters Association • Professional Associations	Years 1- 3
	2.5.3 Build capacity of construction enterprises in knowledge of and efficient use of bureaucratic processes	2.5.3.1 Implement training programmes on bureaucratic processes for local construction enterprises	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
			• UTech • VTDI	
		2.5.3.2 Develop and disseminate information on bureaucratic processes through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing
2.6 Reduction of Informal Activity in the Sector	2.6.1 Strengthen capacity of local authorities to monitor and enforce planning and building approval process and activities	2.6.1.1 Encourage registered professionals to attend planning and approval meetings of the local authorities	• Professional associations	Years 1-3
		2.6.1.2 Recommend strengthening of regulatory capacity for monitoring and enforcement	• CIC • IMAJ • Professional associations • OPM • Local authorities	Years 1-3
		2.6.1.3 Encourage participation of community organizations in monitoring informal construction activities	• PDCs • CBOs • Local authorities • SDC	Years 1-3 Ongoing
	2.6.2 Develop programmes to encourage informal	2.6.2.1 Recommend simplification of approval process for relevant categories of projects	• CIC • IMAJ • Professional associations • OPM	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	enterprises and individuals to enter the formal sector	2.6.2.2 Carry out public education campaigns to sensitize informal enterprises on formal requirements for carrying out construction activities	• Local authorities • CIC • IMAJ	Years 1-3 Ongoing
2.7 Improved Security Conditions	2.7.1 Ensure appropriate security measures for construction projects at the enterprise level	2.7.1.1 Ensure application of best practice for security measures on construction projects	• Contractors • Private security firms	Ongoing
		2.7.1.2 Carry out training and sensitization of contractors on best practices for security measures	• IMAJ • JCF	Ongoing
	2.7.2 Participate in national and community initiatives to reduce crime	2.7.2.1 Strengthen participation in national anti-crime initiatives including Crime Stop and Kingfish	• IMAJ • PSOJ • Industry and professional enterprises	Ongoing
		2.7.2.2 Support community-level peace and anti-crime initiatives and projects including community policing	• IMAJ • Professional associations • Individual construction sector enterprises	Ongoing
		2.7.2.3 Discourage payment of extortion money	• IMAJ • Individual construction sector enterprises • MNS	Ongoing
		2.7.2.4 Undertake good corporate citizenship practices in communities	• IMAJ • Professional associations • Individual construction	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
			sector enterprises	
	2.7.3 Establish special security measures for construction projects in crime-prone areas	2.7.3.1 Establish and maintain appropriate relationships with law enforcement authorities	• JCF • Contractors	Ongoing
		2.7.3.2 Establish dedicated security teams for major construction projects in crime-prone areas	• MTW • MNS • JDF • JCF	Years 1-3
		2.7.3.3 Give priority to recruitment and provision of training opportunities to suitably skilled and competent persons from the community	• Contractors	Ongoing
Goal # 3: Development of Sector in Environmentally Sustainable Manner				
3.1 Enhanced Waste Reduction and Disposal	3.1.1 Encourage reduction and elimination of waste in construction through improved design and procurement	3.1.1.1 Design buildings to standard sizes of building materials where possible	• Professionals • Contractors	Ongoing
		3.1.1.2 Procure building materials in sizes that minimize waste based on building design	• Professionals • Contractors	Ongoing
	3.1.2 Encourage reduction and elimination of waste on construction sites	3.1.2.1 Improve on-site management of construction process to reduce waste of materials	• Contractors	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	3.1.3 Develop greater reuse and recycling of construction materials	3.1.3.1 Increase specification of recyclable materials in building design and construction process	• Professionals • Contractors	Ongoing
		3.1.3.2 Increase reuse of previously used materials in construction process (e.g. formwork, broken tiles, offcuts of lumber and steel etc.) subject to suitability of quality	• Professionals • Contractors	Ongoing
	3.1.4 Increase training and exposure of industry professionals and stakeholders to waste reduction and reuse techniques	3.1.4.1 Incorporate design and planning techniques in construction projects to ensure minimal waste (e.g. mass haul diagram)	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing
		3.1.4.2 Implement training programmes on waste reduction and reuse techniques for industry professionals and construction enterprises	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		3.1.4.3 Develop and disseminate information on waste reduction and reuse techniques for industry professionals and construction enterprises through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI	Ongoing
3.2 Compliance with International and Domestic Environmental Standards	3.2.1 Encourage the construction sector to adopt and achieve ISO14001 environmental standards and certification	3.2.1.1 Implement training programmes on ISO14001 environmental standards and certification for industry professionals and construction enterprises	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing
		3.2.1.2 Develop and disseminate information on ISO14001 environmental standards and certification for industry professionals and construction enterprises through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	3.2.2 Participate in review and strengthening of environmental laws and regulations	3.2.2.1 Introduce and strengthen environmental requirements of construction contracts	• MTW, OPM, NEPA, other government agencies • Professionals • Contractors	Year 1 (Draft)
		3.2.2.2 Increase participation of construction stakeholders in review and amendment of environmental laws and regulations	• MTW, CIC, NEPA	Periodic review and update
	3.2.3 Encourage compliance with environmental laws and regulations	3.2.3.1 Apply penalties for breaches of environmental contractual provisions	• Clients • Professionals	Ongoing
		3.2.3.2 Require environmental policy and manual for qualification for construction projects of certain size	• MTW, NCC, OCG	Years 1-3 Ongoing
		3.2.3.3 Apply professional sanctions for breaches of environmental laws and regulations	• Professional associations, OPM, MTW, • PERB, ARB	Years 1-3 Ongoing
3.3 Sourcing and Use of Materials in Environmentally Friendly Manner	3.3.1 Mandate procurement of materials from approved sources	3.3.1.1 Include requirements for procurement from approved sources in construction contracts	• Clients • Professionals	Year 1 Ongoing
	3.3.2 Increase use of environmentally friendly materials	3.3.2.1 Increase specification of environmentally friendly materials in building design and construction	• Professionals	Year 1 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		process		
		3.3.2.2 Provide incentives for use for environmentally friendly materials	• MTW, MFPS, MEM	Year 1 Ongoing
3.4 Increased Mitigation and Adaptation to Hazards and Climate Change	3.4.1 Ensure that building code addresses requirements for hazard mitigation and climate change	3.4.1.1 Undertake scans of best practices in adaptation of building codes for hazard mitigation and climate change	• MTW • CIC	Ongoing
		3.4.1.2 Carry out periodic reviews of building code	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
		3.4.1.3 Recommend revisions of specific provisions as needed	• MTW • CIC	Ongoing (Subject to periodic reviews e.g. 3-5 years)
	3.4.2 Reduce the carbon footprint of the construction sector through energy efficiency and other measures	3.4.2.1 Provide incentives for retooling and introduction of energy-efficient machinery and equipment in construction sector	• MTW, MFPS, MEM	Years 1-3
		3.4.2.2 Incorporate energy efficiency considerations in building design	• Professionals	Years 1-3 Ongoing
Goal # 4: Application of Technology, Innovation, Research and Development				
4.1 Increased Use of Construction Management Systems, Modern	4.1.1 Include use of construction management systems, modern	4.1.1.1 Expand existing NCC criteria for registration of contractors to include modern construction	• NCC, IMAJ, CIC, Professional Associations	Years 1-3 Grade 1 Years 1-6 Grade 2

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
and Appropriate Equipment and Techniques	and appropriate equipment and techniques as criteria for registration and qualification of contractors	management systems and techniques		
	4.1.2 Develop awareness and capacity of contractors in use of construction management systems, modern and appropriate equipment and techniques	4.1.2.1 Implement training programmes on construction management systems, modern and appropriate equipment and techniques for industry professionals and construction enterprises	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing
		4.1.2.2 Develop and disseminate information on construction management systems, modern and appropriate equipment and techniques for industry professionals and construction enterprises through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
4.2 Widespread Application of Information and Communication Technology (ICT)	4.2.1 Encourage widespread and integrated use of ICT by construction sector including government, businesses and customers	4.2.1.1 Promote e-commerce and B2B networks in construction sector	• IMAJ, Industry associations, professional associations, individual enterprises	Ongoing
		4.2.1.2 Expand e-government and G2B and G2C networks in construction sector	• MTW, NTA, Cabinet Offices, FSL	Ongoing
	4.2.2 Develop awareness and capacity of contractors in use of ICT	(see 4.1.2)		
4.3 Increased Partnerships between Public and Private Sector and Academia in Relevant Research and Innovation	4.3.1 Collaborate with education and research institutions to improve the quality of researchers and research facilities	4.3.1.1 Encourage private sector funding to establish construction research facilities at universities including through treating contributions as tax-deductible	• MFPS, IMAJ, professional associations, enterprises, individuals	Ongoing
	4.3.2 Support development of networking between local, regional and international research institutions	4.3.2.1 Develop relationships with alumni and industry experts through discussion fora, seminars and presentations on topics of mutual interest	• Universities, private sector, research institutions	Ongoing
		4.3.2.2 Facilitate the participation of local specialists in regional and global	• MOE, MFAFT, MTW, Universities, Cabinet Office, private sector,	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		networks for research and development	research institutions	
	4.3.3 Develop partnerships between the public and private sector and academia to establish and implement relevant research agendas for the construction sector	4.3.3.1 Develop regular schedule of dialogue between construction sector associations, government and relevant faculties at universities	• IMAJ, professional associations, MTW, NWA, UTech, UWI, NCU	Years 1-3
		4.3.3.2 Develop and implement research programmes on specific requirements of construction sector	• IMAJ, professional associations, MTW, NWA, UTech, UWI, NCU	Ongoing
		4.3.3.3 Establish and strengthen marketing of consultancy capabilities of universities to the construction sector	• UTech, UWI, NCU	Years 1-3 Ongoing
	4.3.4 Increase funding for research in the construction sector	4.3.4.1 Encourage private sector funding for construction research at universities including through treating contributions as tax-deductible	• MFPS, IMAJ, professional associations, enterprises, individuals	Years 1-3 (Tax) Ongoing
		4.3.4.2 Allocate budgetary support for appropriate research programmes in construction (possibly from Construction Levy)	• MTW, MFPS, NHT	Years 1-3 (Levy) Ongoing
		4.3.4.3 Seek funding from international development partners (IDPs) and	• PIOJ, MFAFT	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		diaspora for construction research programmes and projects		
	4.3.5 Improve mechanisms for collection, archiving, dissemination and use of data on the construction sector	4.3.5.1 Strengthen capacity of local authorities in collection and reporting data on construction activities	• OPM, local authorities	Years 1-3
		4.3.5.2 Establish central unit in MTW to coordinate collection, archiving and dissemination of construction statistics	• MTW, MFPS	Years 1-3
		4.3.5.3 Improve capacity of relevant government agencies to collect and report on construction data	• NHT, NWC, UDC, MWH, MOE, other agencies, STATIN, PIOJ	Years 1-9
		4.3.5.4 Ensure proper application and use of data and information in planning and decision-making for the sector	• MTW, NWA, NHT	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
Goal # 5: Enhanced Customer Focus				
5.1 Increased Delivery of Projects that meet Quality, Time and Cost Requirements	5.1.1 Increase understanding and integration of customer needs in project design	5.1.1.1 Establish mandatory requirement for customer consultation in public sector construction projects of a certain size	• MTW, NHT, NWA, Local authorities	Years 1-3
		5.1.1.2 Establish project brief with clear objectives for public sector construction projects which reflects inputs of all stakeholders	• MTW, NHT, NWA, Local authorities	Years 1-3 Ongoing
	5.1.2 Ensure timely and adequate project design, planning and provision of resources	5.1.2.1 Increase use of feasibility studies for public and private sector projects	• MTW, NHT, NWA, Local authorities	Years 1-3 Ongoing
	5.1.3 Ensure adequate implementation and monitoring systems	5.1.3.1 Increase number and improve quality of trained staff in project management including by government agencies	• MTW, NHT, NWA, Local authorities	Years 1-3 Ongoing
		5.1.3.2 Apply appropriate project management systems by government agencies	• MTW, NHT, NWA, Local authorities	Years 1-3 Ongoing
	5.1.4 Conduct post-implementation evaluation and feedback mechanisms	5.1.4.1 Establish mandatory requirement for post-implementation evaluation and feedback in public sector construction projects of a certain size	• MTW, NHT, NWA, Local authorities	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
Goal # 6: Committed Leadership by Government, Private Sector and Labour Leaders				
6.1 Government, Labour Leaders and Private Sector Players as Exemplars for Sector Development	6.1.1 Undertake demonstration projects that embody best practices in construction	6.1.1.1 Codify and disseminate best practices benchmarked to international standards	• MTW, NWA, UDC, IMAJ, JIA, JIE, UTech, UWI, Trade Unions	Years 1-3 Ongoing
		6.1.1.2 Apply best practices to selected flagship public sector construction projects (e.g. new Parliament building)	• MTW, NWA, UDC, IMAJ, JIA, JIE, UTech, UWI, Trade Unions	Years 1-3
		6.1.1.3 Document and disseminate results of demonstration projects	• MTW, NWA	Ongoing
		6.1.1.4 Develop and direct an integrated ministerial approach to new initiatives and special projects	• MTW, MFPS, OPM, Cabinet Office	Years 1-3
	6.1.2 Remove political interference in the construction process	6.1.2.1 Inform political representatives, unions and legitimate/formal community leadership on the implementation of construction projects	• Contractors, implementing agencies, CBOs, PDCs, MPs, councillors, unions	Ongoing
		6.1.2.2 Ensure that recruitment of labour and securing of supplies for construction projects is done on a non-partisan and transparent basis	• Contractors, implementing agencies	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		6.1.2.3 Ensure that appointment of management and technical staff of public sector construction entities is done on a non-partisan and transparent basis	• Relevant ministries and agencies	Ongoing
	6.1.3 Encourage wide application of best practices in sector	6.1.3.1 Implement training programmes on construction best practices for industry professionals and construction enterprises	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing
		6.1.3.2 Develop and disseminate information on construction best practices for industry professionals and construction enterprises through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	• Ongoing
		6.1.3.3 Provide incentives and awards to companies employing best practices (e.g. tax holidays, GCT	• MFPS, MTW	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		waivers)		
	6.1.4 Improve contractual performance on government projects	6.1.4.1 Centralize responsibility for project management and monitoring of major public sector construction projects undertaken by government ministries and agencies (with exception of UDC, NHT, HAJ, NWC and local authorities)	• NWA • MFPS • OCG	Years 1-6
		6.1.4.2 Strengthen capacity for project management and monitoring in this centralized agency	• NWA • MTW • MFPS	Years 1-6 Ongoing
		6.1.4.3 Strengthen capacity for project management and monitoring in UDC, NHT, HAJ, NWC and local authorities	• UDC, NHT, HAJ, NWC and local authorities	Years 1-6 Ongoing
	6.1.5 Establish and develop formal consultative mechanisms between government, private sector and labour in the construction sector	6.1.5.1 Establish regular schedule of joint meetings of MTW, MLSS, CIC and JIC	• MTW, MLSS, MFPS, CIC and JIC	Years 1-3
	6.1.6 Develop Public Private Partnerships	6.1.6.1 Build and maintain dedicated capacity in the negotiation and	• MFPS, OPM, MTW, JTI	Years 1-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	(PPPs) in the construction sector	participation of PPPs		
		6.1.6.2 Develop opportunities to use capacity in PPPs regionally	• MFPS, OPM, MTW, JTI	Years 1-6 Ongoing
		6.1.6.3 Develop database of persons with requisite expertise in PPPs in the construction sector	• MFPS, OPM, MTW, JTI	Years 1-6 Ongoing
		6.1.6.4 Carry out ongoing evaluation of PPPs	• MFPS, OPM, MTW, JTI	Years 1-6 Ongoing
	6.1.7 Establish the Construction Industry Development Board (CIDB)	6.1.7.1 Establish advisory board initially within the MTW with multi-stakeholder composition to review and advise on: - Registration of professionals etc - Award of contracts - Existing and proposed policies and legislation	• MTW, OPM, MFPS	Years 1-3
		6.1.7.2 Create legislation that gives life to the board and establishes its membership and terms of reference	• MTW, CPC	Years 1-3
		6.1.7.3 Provide appropriate institutional support to ensure efficient and effective functioning of the board	• MTW, OPM, MFPS	Years 1-3
		6.1.7.4 Replace advisory board by consolidating functions of	• MTW, OPM, MFPS	Years 4-6

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		the NCC, industry and professional registration and licensing bodies, under CIDB to provide long-term leadership for development of sector		
	6.1.8 Promote Enhanced Corporate Social Responsibility	6.1.8.1 Undertake programmes to strengthen communities with collaboration between public sector, private sector and civil society partners	• MTW, Private sector associations and enterprises, NGOs, CBOs	Ongoing
		6.1.8.2 Operate with integrity and ethical codes of practice	• MTW, public sector agencies, private sector associations and enterprises, NGOs, CBOs	Ongoing
6.2 Transparency and Efficiency in the Government Procurement Process	6.2 1 Rationalize the procurement process across ministries and agencies including standardized contracts, forms and bonds	6.2.1.1 Develop standardized contracts for similar work (including bonds and payment schedules)	• MFPS, MTW, OCG, CIC	Years 1-3
		6.2.1.2 Develop standardized small works contract (including bonds and payment schedules)	• MFPS, MTW, OCG, CIC	Years 1-3
	6.2.2 Disseminate timely and accessible information on public sector projects	6.2.2.1 Establish central website that provides comprehensive information on all public sector construction projects from planning stage with schedule for tendering for	• JIS, MFPS, OPM, MTW	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		construction and professional services		
	6.2.3 Strengthen and improve the government contracting system for construction projects	6.2.3.1 Ensure appeal process for all stages prior to award of contract	• OCG, public sector agencies	Years 1-3
		6.2.3.2 Carry out periodic review of system of classification of contractors including contract value limits and areas of specialization	• MFPS, NCC	Every 2-3 years
		6.2.3.3 Ensure stakeholder participation in periodic review of system of classification of contractors	• MFPS, NCC	Every 2-3 years
Goal # 7: Competitive Construction Sector Value Chain				
7.1 Increased Use of Life-Cycle Costing and Value Engineering	7.1.1 Encourage application of life-cycle costing and value engineering in design and implementation of construction projects	7.1.1.1 Introduce and carry out value engineering reviews (including life-cycle costing) as a requirement in the design stage (e.g. at 30%, 60% and 90% completion of design process) of all major public sector construction projects	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing
		7.1.1.2 Establish project review teams of independent experts with expertise relevant to each project	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		7.1.1.3 Include contractors in value engineering reviews for constructability analysis	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing
		7.1.1.4 Conduct monitoring and regular project reviews by design teams and project review teams during implementation to ensure compliance to design and modifications to incorporate changes in conditions and technologies	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing
		7.1.1.5 Establish system of post-implementation monitoring and data recording to evaluate project performance and provide feedback for future projects	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing
		7.1.1.6 Carry out project modifications during operating phase to improve performance and life-cycle cost	• OPM, MFPS • MTW, NWA, NHT • Industry professionals • Contractors	Years 1-3 (Introduction) Ongoing
	7.1.3 Develop awareness and capacity of clients, contractors and professionals in the use of life-cycle costing and	7.1.3.1 Implement training programmes on life-cycle costing and value engineering for industry professionals and construction enterprises	• MTW • NWC • NHT • Other government agencies	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	value engineering		• IMAJ • Industry associations • UTech • VTDI • HEART/NTA	
		7.1.3.2 Develop and disseminate information on life-cycle costing and value engineering for industry professionals and construction enterprises through a range of media channels including electronic and print media	• MTW • NWC • NHT • Other government agencies • IMAJ • Industry associations • UTech • VTDI • HEART/NTA	Ongoing
7.2 Optimized Procurement Methods and Processes	7.2.1 Encourage partnering and integrated teams in the construction value chain	7.2.1.1 Promote the benefits of partnering and integrated teams in the private sector	• IMAJ • Industry associations • Professional associations	Years 1-3 Ongoing
		7.2.1.2 Explore the benefits of partnering and integrated teams in the public sector	• MTW • IMAJ • Professional associations	Years 1-3
	7.2.2 Select and apply appropriate procurement methods considering best value, design build and operate, build own operate and	7.2.2.1 Establish effective advisory teams to analyse and recommend appropriate procurement methods on a case-by-case basis for major public sector construction projects	• MTW • OPM • MFPS • PIOJ	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	transfer (BOOT) and other options			
Goal # 8: Expansion of Participation in Domestic, Regional and International Markets				
8.1 Enhanced Regional Coordination and Cooperation in Development of Regional Framework for Construction Sector	8.1.1 Support trade relations that provide fair access to regional, international and domestic markets for construction services	8.1.1.1 Lobby for implementation of the provisions of the CSME	• CIC • IMAJ • Industry associations • Professional associations • MFAFT	Years 1- 10?
		8.1.1.2 Prepare construction sector for full implementation of the EPA with the EU	• CIC • IMAJ • Industry associations • Professional associations • MFAFT	Years 1-3
	8.1.2 Harmonize requirements for professionals and certified workers	8.1.2.1 Develop regional agreements on common requirements for professionals and occupations in the construction sector	• MFAFT • HEART Trust/NTA • IMAJ • Professional associations	Years 1-3?
	8.1.3 Support frameworks for domestic and regional dispute settlement	8.1.3.1 Support establishment of domestic and regional boards of arbitration for construction disputes	• MOJ • MTW • MFAFT • CARICOM	Years 1-3
	8.1.4 Support and participate in trade negotiations to ensure competitive	8.1.4.1 Strengthen participation of construction sector in JTAT and CRNM	• IMAJ • Industry associations • Professional associations • MFAFT	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	position of local construction sector	8.1.4.2 Ensure full participation of construction sector in negotiations of new bilateral agreements with Canada and the US	• IMAJ • Industry associations • Professional associations • MFAFT	Years 1-3
	8.1.5 Strengthen commercial capacity and orientation of embassies and consulates	8.1.5.1 Lobby for stronger support for local construction sector by embassies and consulates, including provision of information on tenders for construction projects and support for bids in foreign markets	• IMAJ • Industry associations • Professional associations • MFAFT • JTI	Years 1-3 Ongoing
8.2 Enhanced Regional and International Cooperation and Collaboration by Construction Industry Players	8.2.1 Promote joint-ventures with regional and international construction industry players	8.2.1.1 Participate in trade and investment missions to regional and international markets	• IMAJ • Industry associations • Professional associations • MFAFT • JTI • Private enterprises	Ongoing
		8.2.1.2 Strengthen relationships between construction industry and professional associations in the region to develop collaboration by member enterprises	• IMAJ • Industry associations • Professional associations	Ongoing
		8.2.1.3 Promote regional cross-training, secondments and staff exchanges	• IMAJ • Industry associations • Professional associations	Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
8.3 Strengthened Participation of Local Construction Enterprises in Domestic Market	8.3.1 Develop collaboration between local construction sector enterprises	8.3.1.1 Encourage formation of joint-ventures, consortia and sub-contracting agreements between local construction sector enterprises	• IMAJ • Industry associations • Professional associations • Private enterprises	Ongoing
	8.3.2 Foster capacity and opportunities for local construction sector enterprises and professionals to undertake major construction projects in Jamaica	8.3.2.1 Establish margin of preference for local construction and professional enterprises as a policy / principle to be used in the evaluation of tenders for the award of contracts for public sector construction projects	• MFPS • MTW • OPM	Years 1-3
		8.3.2.2 Include margin of preference in tender documents for public sector construction projects	• MFPS • MTW • OPM	Years 1-3
		8.3.2.3 Establish margin of preference for involvement of local construction and professional enterprises with foreign contractors / partners taking into account value paid to local enterprises	• MFPS • MTW • OPM	Years 1-3
		8.3.2.4 Extend provisions of the Modernization of Industry Programme to include the construction sector	• MFPS • JTI • MFPS • CIC	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		8.3.2.5 Encourage use of Accelerated Depreciation / Special Capital Allowance by construction enterprises	• IMAJ • Industry associations • Professional associations • Private enterprises	Ongoing

7. Appendices

7.1 Appendix 1 – List of Task Force Members

• Mr. Don Mullings (Chairperson)	Managing Director, M & M Jamaica Limited
• Mr. Ivan Anderson (Vice-Chair)	Managing Director, National Road Operating & Construction Company (NROCC)
• Mr. Michael Archer	President, Incorporated Masterbuilders Association of Jamaica (IMAJ)
• Mr. Neville Boxe	IMAJ
• Ms. Tanya Bedward	Ministry of Transport and Works
• Mrs. Janet Coleman-Howlett	Ministry of Transport and Works
• Mr. Lionel Brown	Ministry of Transport and Works
• Ms. Angella Smith	Ministry of Transport and Works
• Julia Moncrieffe Wiggan	Ministry of Transport and Works
• Ms. Monifa Blake	Ministry of Transport & Works
• Ms. Dorothea Clarke	Ministry of Transport and Works
• Mr. Paul Campbell	National Works Agency
• Mrs. Louise McLeod	President, Jamaica Institute of Architects (JIA)
• Mr. Maurice Anderson	President, Jamaican Institution of Engineers (JIE)
• Mr. Delroy Alcott	Managing Director, West Indies Home Contractors Limited (WIHCON)
• Mr. Chester Adams	Planning and Development Manager, Caribbean Cement Company
• Mr. Reynold Scott	Chairman, Jamaica Developers Association
• Mr. Denworth Finnikin	HEART Trust/NTA
• Mr. Leonard Sewell	National Workers Union (NWU)
• Ms. Carmen Griffiths	Women's Construction Collective
• Mr. Donald Moore	National Housing Trust
• Mr. Errol Salkey	Hardware Merchants Association
• Mr. Owen Saunderson	NWU
• Ms. Rochelle Afflick	National Environment and Planning Agency (NEPA)
• Mr. Leonard Francis	NEPA
• Mrs. Julia Moncriefe Wiggan	Ministry of Water and Housing
• Mr. Desmond Young	Halcion Holdings
• Mr. Clifton Yap	Jamaica Institute of Architects
• Mr. Errol Salkey	Hardware Merchants Association
• Mr. Horatius Glave	NWU
• Ms. Karen Gayle	HEART Trust/NTA
• Mr. Kevin Mullings	HEART Trust/NTA
• Mr. Junior Gordon	University of Technology

- Mr. Richard Lumsden PIOJ
- Mrs. Rosemarie Broadbell PIOJ
- Mrs. Angella Taylor Spence PIOJ
- Mr. Donald Simpson PIOJ

Note: Positions of Task Force Members are given as at the time of their appointment to the Construction Task Force.

7.2 Appendix 2 – Listing of Task Force Meetings

- September 6, 2007
- September 20, 2007
- September 27, 2007
- October 4, 2007
- October 11, 2007
- October 18, 2007
- October 25, 2007
- November 1, 2007
- November 8, 2007
- November 15, 2007
- November 22, 2007
- December 20, 2007
- January 17, 2008
- January 24, 2008
- June 12, 2008
- June 19, 2008
- June 26, 2008
- July 3, 2008
- July 10, 2008
- July 17, 2008
- July 24, 2008
- August 21, 2008
- September 18, 2008
- September 25, 2008
- October 2, 2008
- October 9, 2008
- October 16, 2008
- October 23, 2008
- October 30, 2008
- November 6, 2008
- November 13, 2008
- November 20, 2008

7.3 Appendix 3 – List of Acronyms and Abbreviations

ARB	Architects' Registration Board
BITU	Bustamante Industrial Trade Union
CBO	Community Based Organization
CIC	Construction Industry Council
CRDC	Construction Resource and Development Centre
CRNM	Caribbean Regional Negotiating Mechanism
DBJ	Development Bank of Jamaica
ENGO	Environmental Non-Governmental Organization
ESSJ	Economic and Social Survey Jamaica
FSL	Fiscal Services Limited
GDP	Gross Domestic Product
GOJ	Government of Jamaica
HAJ	Housing Agency of Jamaica
HEART/NTA	HEART Trust / National Training Agency
IDP	International Development Partner
IMAJ	Incorporated Masterbuilders Association of Jamaica
JBDC	Jamaica Business Development Centre
JCF	Jamaica Constabulary Force
JCTU	Joint Confederation of Trade Unions
JDF	Jamaica Defense Force
JFLL	Jamaica Foundation for Lifelong Learning
JIA	Jamaica Institute of Architects
JIE	Jamaican Institute of Engineers
JIQS	Jamaica Institution of Quantity Surveyors
JIS	Jamaica Information Service
JTAT	Jamaica Trade Adjustment Team
JTI	Jamaica Trade and Invest
KMA	Kingston Metropolitan Area
KSAC	Kingston and St. Andrew Corporation
LSAJ	Land Surveyors' Association of Jamaica
MEM	Ministry of Energy and Mining
MFAFT	Ministry of Foreign Affairs and Foreign Trade
MFPS	Ministry of Finance and the Public Service
MIIC	Ministry of Industry, Investment and Commerce
MITEC	Ministry of Industry, Technology, Construction and Commerce
MOE	Ministry of Education
MOHE	Ministry of Health and the Environment
MLSS	Ministry of Labour and Social Security
MNS	Ministry of National Security
MTW	Ministry of Transport and Works
MWH	Ministry of Water and Housing
NCC	National Contracts Commission

NCTVET	National Council on Technical Vocational Education and Training
NCU	Northern Caribbean University
NEPA	National Environment and Planning Agency
NGO	Non-Governmental Organization
NHT	National Housing Trust
NROCC	National Road Operating and Construction Company
NWA	National Works Agency
NWC	National Water Commission
NWU	National Workers Union
OCG	Office of the Contractor General
OPM	Office of the Prime Minister
OUR	Office of Utilities Regulation
PDC	Parish Development Committee
PERB	Professional Engineers Registration Board
PIOJ	Planning Institute of Jamaica
PSOJ	Private Sector Organization of Jamaica
SBAJ	Small Business Organization of Jamaica
SDC	Social Development Commission
STATIN	Statistical Institute of Jamaica
TUC	Trades Union Congress
UAWU	University and Allied Workers Union
UCJ	University Council of Jamaica
UDC	Urban Development Corporation
UTech	University of Technology
UWI	University of the West Indies
VTDI	Vocational Training Development Institute

7.4 Appendix 4 – References and Selected Bibliography

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