FINAL DRAFT

VISION 2030 JAMAICA

MANUFACTURING

SECTOR PLAN 2009 - 2030

Manufacturing Task Force

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

This Sector Plan for Manufacturing 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 – *'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.

Despite a relative decline since 1990, manufacturing remains the largest goods-producing sector in the Jamaican economy. The fundamental requirement for the sector is to achieve levels of productivity that will enable it to compete successfully in domestic and export markets. The Manufacturing Sector Plan for Vision 2030 Jamaica will enable the manufacturing sector to make the transition to higher levels of productivity and value-added production using efficient technologies and environmentally sustainable processes, with motivated, productive employees, within an enabling business and regulatory environment.

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 Manufacturing issues and challenges facing Jamaica as well as identifying a vision for Manufacturing in Jamaica, and determining key goals, objectives and strategies for the sector
- Research on international best practices in Manufacturing that could be adapted to the Jamaican context
- Review of relevant documentation on the Manufacturing Sector
- Development of a detailed Action Plan with responsible agencies and time-frames for implementation.

The Sector Plan is structured in the following main chapters as listed below.

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

1.2 Manufacturing and National Development

Manufacturing in which raw materials are transformed into finished products on a large scale is a fundamental economic activity that has been characterized as the secondary sector, between the primary sector of agriculture and minerals extraction, and the tertiary service sector. The Manufacturing Sector represents a critical component of the economies of many developing countries including Jamaica. The Manufacturing Sector Plan also will have implications for other areas of national development including agro-processing, non-metallic minerals, construction, information and communication technology, energy, tourism and the distributive trade. During the period 2004-2008 Manufacturing represented on average 8.4 % of Jamaica's Gross Domestic Product (GDP)[3].

[1] See Appendix 1 for List of Members of the Manufacturing Task Force.

[2] See Appendix 2 for Listing of Task Force Meetings.

[3] Contribution to Total Goods and Services Production at constant 2003 prices, Economic and Social Survey of Jamaica, 2004 – 2008. However, it is important to note that STATIN carried out a revision of the System of National Accounts and a revision of the National Accounts Classification of Industry 2008, which had the effect of increasing the contribution to GDP of services industries and reducing the contribution of manufacturing. The revisions also had the effect of changing the name of the Manufacturing Sector to the Manufacture Industry. However, for the purposes of this Sector Plan the previous name of the sector is retained.

2. Situational Analysis – Jamaica's Manufacturing Sector

2.1 Global Context – Manufacturing

Manufacturing and agro-processing represent the application of technical know-how and process equipment (embedded knowledge) together with capital and labour leading to the transformation, with clear value addition, of locally available or imported raw materials and intermediate inputs into final or intermediate products for domestic and export markets. Despite the growth of service industries in recent decades manufacturing continues to play a central role in the world economy, accounting for 18% of world Gross Domestic Product (GDP) in 2006, down from 19.4% in 2000. Manufacturing accounts for a higher percentage of GDP in low- and middle-income countries (19% in 2006, down from 21.6% in 2000) than in high-income countries (17% in 2006, down from 18.9% in 2000). Manufactured goods averaged 75% of global merchandise trade from 2001 – 2006. [4]

Within this overall performance the Organization for Economic Co-operation and Development (OECD) has made a classification of manufacturing sub-sectors according to the strength of international demand and has identified the following categories of sub-sectors:

- sub-sectors with strong international demand: chemicals, pharmaceuticals, office and data processing products, precision and optical instruments and electrical goods;
- sub-sectors with moderate international demand: machinery, transport equipment, food, beverages and tobacco, paper and printing products, and rubber and plastic products;
- sub-sectors with weak international demand: ferrous and non-ferrous metals, non-metallic minerals, metal products, textiles, clothing, leather and footwear, and other manufactured products (OECD 2006).

The competitiveness of manufacturing enterprises is determined by the ability of the enterprise to combine technology, managerial entrepreneurship, employee skills, business organization and software to service markets and interact with customers and suppliers. It is generally felt that the right model for industrial development is strategic collaboration between the private sector and the government, with the aim of uncovering where the most significant obstacles to restructuring lie, and what type of interventions are most likely to remove them. The development progress of a country can benefit from the expansion in privately driven manufacturing and agro-processing sector as growth in manufacturing activity can result in sharp increases in output and labour productivity as a result of deeper backward and forward linkages.

[4] World Bank (2008). *2008 World Development Indicators*. Washington, DC.

Since the 1970s, countries have pursued a range of strategies to develop their manufacturing sectors. Latin American economies and manufacturers which were more developed than those in other parts of the developing world have lost ground to competitors, partly by continuing to pursue import substitution policies. They were also negatively affected by the international debt crisis that struck all Latin American economies. From the late 1980s, Latin American economies began to liberalize and switched to export-orientated policies, but faced with stiff international competition, many firms were forced to downsize. The demise of some local enterprises allowed a few ("the fittest") to prosper. Transnational corporations (TNCs) in Latin American have been able to survive by specializing or intensifying their activities in manufactured goods based on natural resources, such as pulp and paper, petrochemicals and cement.

Among the countries in Latin America and the Caribbean, industrial growth in Brazil has been among the most successful. As outlined below, that country implemented similar policy reform programmes as Jamaica, namely World Bank Structural Adjustment and IMF Stabilization Programmes, which culminated in the liberalization of domestic markets. In Brazil, the major change in economic policy in the 1990s was the acknowledgment that past policies could not guarantee a new cycle of economic growth. One of the major visible changes of the new policies was the implementation of trade liberalization. In 1994, a stabilization plan, *Plano Real*, was implemented, which succeeded in reversing the inflationary bias of the Brazilian economy. Inflation fell from 27.08 % in 1993 to 14.8 % in 1995. The general perception of the government was that macroeconomic stability and economic reforms would allow a new cycle of economic growth. It believed that export growth would be a consequence of the productivity increase driven by the new economic environment. An open trade regime would oblige domestic firms to adopt more efficient productive techniques; moreover, it would reveal comparative advantages, leading to a better allocation of national resources, and, thereby, resulting in greater international competitiveness. Over the period 1995-2004 successive Brazilian governments therefore moved progressively to a flexible exchange rate regime, broad trade policy reform and a stable macroeconomic environment, measures that were rewarded by a reversal of the trade deficit and an economic growth rate of 4.9% in 2004.

In other parts of the world, some governments have acted to remove some of the key constraints on attracting and benefiting from investment particularly foreign direct investment (FDI). After market liberalization, deliberate strategies were implemented by the Egyptian government to improve the investment climate and boost manufacturing activity in that country. Other countries have adopted similar measures to attract FDI in high-value processing. In South Africa a Skills Support Programme (SSP) was introduced to enhance the supply of skilled labour (UNCTAD: World Investment Report 2005-2006). The South African Government also developed several programmes aimed at improving competitive activities in all sectors of their economy. Since the shortage of skilled labour is a serious constraint on attaining such competitiveness through inward FDI, a Skills Support Programme (SSP) was introduced in 2005, complementing the previously existing Skills Incentive Programme (SIP) and Small and Medium Enterprises Development Programme (SMEDP). These experiences are relevant to Jamaica's efforts to plan for the long-term development of its own manufacturing sector.

2.2 Jamaica – Manufacturing Sector Structure and Performance

2.2.1 Overview

The manufacturing sector has had a complex history in the post-Independence economic history of Jamaica. During the 1960s the development of the sector was led by the Industrial Development Company (IDC) and experienced high levels of foreign investment under the policy of "industrialization by invitation". The sub-sectors that showed the greatest growth from 1962-1972 included beverages, textiles and apparel, metal products, chemicals and chemical products and miscellaneous manufactures. However, the entire manufacturing sector underwent contraction during the period 1972-1980 along with the domestic economy. The sector rebounded during the subsequent decade including growth generated by the apparel sub-sector particularly following the Jamaica Free Zone Act of 1982. During this period of expansion the manufacturing sector reached a peak of 20% of GDP in 1989, while exports of manufactured products increased from US$207.6 million in 1983 to US$318.1 million in 1989.

From 1990 onward, the manufacturing sector entered another period of contraction primarily driven by the effects of three (3) factors: i) increased competition in export markets from lower-cost producers in the Caribbean and Central American region and the Far East (as evidenced by the fate of the local export apparel industry which contracted by 65% from 1997-2003); ii) the progressive liberalization of the trade regime in Jamaica that removed quantitative restrictions and lowered protective tariff barriers and exposed local manufacturers to increased competition from imported products; and iii) rising real wages and real effective exchange rate (REER) that reduced Jamaica's competitiveness. As a consequence, manufacturing has fallen from 13.4% of GDP in 1992 to 8.0% in 2008,[5] despite growth in certain sub-sectors including food processing, beverages and rum production. Manufactured exports, which had grown to US$553.4 million in 1995, fell to US$372.6 million by 2000 mainly the result of disinvestment in the apparel industry. Employment in manufacturing fell from 108,200 in 1990 to 69,600 in 2000.

Despite the relative decline since 1990, the manufacturing sector remains the largest contributor to GDP of all the goods-producing sectors in the Jamaican economy. The contraction of the sector gradually stabilized, and total exports from the sector grew strongly from US$341.5 million in 2001 to US$1,244.7 million in 2008. The sector also contains world-renowned products in the food processing, beverage and other industries.

[5] Based on Contribution to Total Goods and Services Production in Basic Values at constant (2003) prices (PIOJ).

Table 1: Summary of Manufacturing Activity in Jamaica 2004 - 2008

	2004	2005	2006	2007	2008	AVERAGE 2004-2008
GDP ($ Million) (1)						
Manufacturing	46 245	44 215	43 193	43 273	42 752	
of which: Food, Beverages & Tobacco	24 612	24 470	23 391	24 030	23 980	
Other Manufacturing	21 633	19 745	19 802	19 243	18 772	
Manufacturing as % of Total GDP (2)	9.1%	8.6%	8.2%	8.1%	8.0%	8.4%
of which: Food, Beverages & Tobacco	4.8%	4.8%	4.4%	4.5%	4.5%	4.6%
Other Manufacturing	4.3%	3.8%	3.8%	3.6%	3.5%	3.8%
EMPLOYMENT ('000) (3)						
Manufacturing	69.4	73.8	76.4	70.1	71.2	72.18
Total - Jamaica	1055.2	1085.8	1123.7	1152.6	1158.9	1115.24
Manufacturing as % of Total	6.6%	6.8%	6.8%	6.1%	6.1%	6.5%

Source: ESSJ
(1) GDP in Producers' Values at Constant (1996) Prices
(2) Contribution to Total Goods and Services Production
(3) Average Annual Employment

As shown in Table 1 the manufacturing sector averaged 8.4 % of GDP over the period 2004 – 2008, with the food, beverages and tobacco sub-sectors accounting for an average of 4.6 % and other manufacturing accounting for 3.8 %. Real GDP for the manufacturing sector declined by a total of 7.6% from 2004-2008, reflecting declines in both the Food, Beverages & Tobacco sub-category and the Other Manufacturing sub-category. Total employment in the sector grew from 69,400 in 2004 to 71,200 in 2008. Despite the lower level of Manufacturing GDP, over the five years period 2004 - 2008 employment within the manufacturing sector increased, so that average annual employment in the manufacturing sector was 71,200 persons in 2008 compared with 69,400 in 2004. Trade unions are important stakeholders in the sector and have contributed to improved industrial relations in recent years, with industrial disputes reported in the manufacturing sector falling from a total of 39 in 2000 to 26 by 2008.

2.2.2 Sector Performance by Sub-Sector and Commodity

As shown in Table 2 below, a number of manufacturing sub-sectors have shown growth over the period 2003- 2007, in terms of their share of value added by the sector. Firstly, the Food, Sugar, Molasses & Rum, and Non-Alcoholic Beverages sub-sectors have all shown growth and increased their relative strength within the sector. The other sub-sectors which have shown growth within the overall sector include Paper & Paper Products, Printing & Publishing, Refined Petroleum Products, Non-Metallic Mineral Products, Metals, Fabricated Metal Products, Machinery & Equipment, and Furniture & Products of Wood, Cork and Straw. By contrast, the sub-sector showing the highest level of decline within the sector was Textiles & Wearing Apparel. Other sub-sectors showing marginal levels of relative decline included Alcoholic Beverages & Tobacco Products, and Chemicals, Chemical Products, Rubber & Plastic Products. Other sub-sectors remained relatively constant in their share of value added over the period.

Table 2: Manufacturing Sector Performance by Sub-Sector 2003 - 2007

SUB-SECTORS AS % OF SECTOR	2003	2004	2005	2006	2007
SUB-SECTOR					
Food (excl. Sugar)	30.5%	30.8%	33.3%	35.0%	35.4%
Sugar, Molasses & Rum	2.5%	2.9%	2.1%	2.4%	2.8%
Alcoholic Beverages & Tobacco Products	16.3%	16.6%	16.6%	13.3%	13.7%
Non-Alcoholic Beverages	2.9%	3.0%	3..3%	3.4%	3.7%
Textiles & Wearing Apparel	7.8%	6.1%	1.7%	1.2%	1.0%
Leather , Leather Products & Footwear	0.3%	0.4%	0.3%	0.4%	0.3%
Paper & Paper Products, Printing & Publishing	5.8%	5.8%	6.4%	6.8%	7.2%
Refined Petroleum Products	5.9%	6.0%	6.2%	6.7%	6.7%
Chemicals, Chemical Products, Rubber & Plastic Products	10.3%	10.2%	10.2%	10.3%	9.8%
Non-Metallic Mineral Products	7.3%	8..2%	9.2%	9.2%	8.0%
Metals, Fabricated Metal Products, Machinery & Equipment	6.7%	6.4%	6.7%	6.9%	7.0%
Furniture & Products of Wood, Cork and Straw	3.2%	3.2%	3.4%	3.8%	3.9%
Other Manufacturing Goods	0.6%	0.6%	0.6%	0.6%	0.6%
MANUFACTURING SECTOR	100.0%	100.0%	100.0%	100.0%	100.0%

Source: PIOJ

The decline in the Alcoholic Beverages & Tobacco Products sub-category during 2003 – 2007 reflected a progressive contraction in value added for the tobacco products industry for which all manufacturing operations in Jamaica ceased in December 2005. Value added generated by the Sugar, Molasses and Rum industries has also fluctuated over the five year period.

The sub-sector performance is largely mirrored by the exports of manufactured products over the period 2004-2008. Categories showing significant increases in exports included Processed Foods, Rum and Mineral Fuels. Most other categories of manufactured products showed declines in exports over the period. However, this is due in part to the revision of the System of National Accounts and the revision of the National Accounts Classification of Industry carried out by the Statistical Institute of Jamaica (STATIN) in 2008, which had the effect of reducing the value added and exports of manufacture activities, in particular.

Table 3: Total Exports from the Manufacturing Sector 2004 - 2008

(US$ '000s)	2004	2005	2006	2007	2008	ANNUAL GROWTH RATE (1) 2002-2006
TRADITIONAL						
Sugar	98,139	76,805	89,692	100,277	104,251	1.52%
Other Products	4,648	4,624	6,084	5,611	2,091	-18.10%
Rum	28,517	34,253	35,969	45,705	43,662	11.24%
TOTAL TRADITIONAL	131,304	115,682	131,745	151,593	150,004	3.38%
NON-TRADITIONAL						
Processed Foods	49,408	50,670	47,126	92,146	122,704	25.54%
Beverages & Tobacco	61,696	78,902	78,835	52,588	49,638	-5.29%
Crude Materials	27,443	18,830	79,782	81,268	25,224	-2.09%
Mineral Fuels	33,642	111,374	222,319	325,984	434,355	89.56%
Animal & Vegetable Oils	59	119	36	85	56	-1.30%
Chemicals	77,217	57,211	52,455	29,018	51,400	-9.67%
Ethanol				154,764	395,363	n/a
Manufactured Goods	13,875	11,040	12,024	6,157	4,785	-23.37%
Machinery Equipment	24,280	18,187	16,932	1,284	1,277	-52.11%
Misc. Manufactures	21,813	21,335	16,775	10,538	9,947	-17.82%
TOTAL NON-TRAD	309,433	367,668	526,284	753,832	1,094,749	37.15%
GRAND TOTAL	440,737	483,350	658,029	905,425	1,244,753	29.64%

Source: Compiled by PIOJ from data supplied by STATIN
(1) Compound annual growth rate

2.2.3 Structure of Manufacturing Sector

Structure by Size

While the previous section provides relatively detailed information on the structure of the manufacturing sector by sub-sector or industry group, there is limited data on the breakdown of the manufacturing sector by size. Data on employment in large establishments (employing 10 or more employees) indicate that in 2005 large establishments in the manufacturing sector employed an annual average of 40,708 persons, representing 55% of total employment in the sector in that year.

Micro-enterprises (less than 10 employees and annual turnover less than US$0.125 million) and small businesses (less than 10 employees and annual turnover between US$0.125 - 1.0 million) also form a part of the manufacturing sector. The *Informal Sector Study for Jamaica* completed in 2004 indicated that 5.5 % of micro- and small enterprises (MSEs) are engaged in manufacturing.[6] It is likely that the extent of the

[6] See Robles, Miguel, Manuel Hernandez, Jorge De La Roca, and Maureen Webber. (2004). *Informal Sector Study for Jamaica.* Preliminary Final Report. IDB. Kingston.

levels of manufacturing activity among MSEs is not fully captured by existing sources of data on the sector.

Policy Framework

The main policy framework for the manufacturing sector continues to be provided by the National Industrial Policy (1996). The manufacturing sector is central to the development strategy for Jamaica as provided by the National Industrial Policy (NIP), representing three of five Strategic Industry Clusters identified by the NIP as stated below.

Cluster # 3: - Agro-Processing
Cluster # 4: - Apparel
- Other Light Manufacturing
Cluster # 5: - Minerals
- Caustic Soda
- Chemicals
- Ceramics

There are a number of incentives available for manufacturers including the following:

- Modernization of Industry (MOI) Programme
- Customs User Fee Waiver
- Accelerated Depreciation/Special Capital Allowance
- Export Industry Encouragement Act
- Jamaica Export Free Zone Act
- Factory Construction Law

Institutional Framework

The Ministry of Industry, Investment and Commerce has portfolio responsibility for guiding the development of the manufacturing sector. There is a range of other institutions with functions that are relevant to the manufacturing sector, including the following:

- Bureau of Standards
  Subject Matter: Metrification, Standards, Weights and Measures
- Companies Office of Jamaica
  Subject Matter: The Companies Act, Registration of Business Name Act
- Consumer Affairs Commission
  Subject Matter: Consumer Affairs
- Jamaica Customs
  Subject Matter: Duties and Clearance of Imports and Exports
- Fair Trading Commission
  Subject Matter: Fair Competition Act
- Anti Dumping and Subsidies Commission
  Subject Matter: Anti Dumping
- Jamaica Intellectual Property Office
  Subject Matter: Copyright Act, Design Act, Intellectual Property, Merchandise Marks, Patents, Trademarks
- Jamaica Trade and Invest (JAMPRO)
  Subject Matter: Promotion and Facilitation of Trade and Investment

- National Environment and Planning Agency
  Subject Matter: Land Development Approvals, Environmental Licences and Permits
- Scientific Research Council
  Subject Matter: Science and Technology
- Trade Board
  Subject Matter: Import and Export Licensing, The Trade Act, Trade in Services

The main industry association for the manufacturing sector is the Jamaica Manufacturers' Association (JMA), with over 250 member companies in a range of sub-sectors. The JMA undertakes activities in support of the development of the sector, including promotion of modern production methods and quality standards, facilitation of sales and marketing of Jamaican manufactured products, provision of relevant business and sectoral information, and lobbying government and other interest groups on behalf of manufacturers. Other associations with representation by manufacturers include the Jamaica Exporters' Association (JEA) and the Small Business Association of Jamaica (SBAJ).

Linkages and Financing

The manufacturing sector has a number of linkages to other sectors in the Jamaican economy. The backward linkages to local sources of supply include agricultural supplies for the agro-processing sub-sector, non-metallic minerals as raw materials for the manufacture of lime, cement and other products, the construction sector in the provision of factories and other infrastructure, and information and communication technology (ICT) as an increasingly important element of production. Energy supplies and other utilities also form important inputs into manufacturing production processes. The manufacturing sector also depends on a wide range of financial, business and professional services which are largely sourced from the domestic economy. In addition, the manufacturing sector also enjoys forward linkages as a supplier of manufactured products to other sectors, including tourism, construction and installation, the distributive trade and government.

The main source of financing for the manufacturing industry is the commercial banking institutions. At the end of December 2008, Commercial Bank Loans and Advances to the sector stood at $9,302.6 million, an increase of 48.6% over 2007. The sub-sectors receiving the highest levels of funding included Food, Drink and Tobacco, Cement and Clay, and the Other category. At the end of December 2008, loans to the manufacturing industry from Institutions Licensed under the Financial Institution Act totalled $363.5 million, a decline of 30.0% compared with the figure at the end of December 2007. Funds disbursed to the sector from the Development Bank of Jamaica Limited (DBJ) totalled $220.8 million in 2008, down from $980.7 million in 2007. In 2008 disbursements by the National Export-Import Bank of Jamaica Limited (EX-IM Bank) to the sector grew by 30.7 % to a total of $2,944.0 million. There has been limited development of other sources of funding for the sector including equity capital, corporate bonds and venture capital

2.3 Competitiveness and Productivity

2.3.1 Global Competitiveness

The competitiveness of the Jamaican economy is central to the long-term development prospects of the island and its productive sectors, including manufacturing. A broadly used framework for the discussion and evaluation of competitiveness has been provided since 1979 by the World Economic Forum in its annual Global Competitiveness Report. In 2008 Jamaica ranked 86th out of 134 countries (down from a ranking of 52nd in 2001), with a Global Competitiveness Index (GCI) of 3.89.[7] By comparison in 2008 Barbados was ranked 47th (the second-highest ranking achieved by any country in the Caribbean, Central America and Latin America) with a GCI of 4.40, while Trinidad and Tobago was ranked 92nd with a GCI of 3.85. The GCI seeks to measure competitiveness based on 12 main factors:

1. Institutions
2. Infrastructure
3. Macroeconomy
4. Health and Primary Education
5. Higher Education and Training
6. Goods Market Efficiency
7. Labour Market Efficiency
8. Financial Market Sophistication
9. Technological Readiness
10. Market Size
11. Business Sophistication
12. Innovation

The World Economic Forum suggests that all 12 factors are important for competitiveness, and that their relative importance depends on the stages of development. For countries in the early stage of development (or factor-driven stage) the first four factors will be most important, while for countries at a higher stage of development (or efficiency-driven stage) factors 5-10 will be more important in their ability to compete. Finally, as countries enter the innovation-driven stage their ability to sustain higher wages and standards of living will depend on the last two factors. Jamaica is currently considered to be among the countries in the efficiency-driven stage of development.

2.3.2 Competitiveness in Jamaica

For Jamaica, the long-term economic development process must involve planning for movement from the stages where economic competitiveness is based on factor endowments and efficiency to the stage where competitiveness is based on the ability to add ever higher levels of value through innovation and creativity in a knowledge-based economy. The measures taken to address the challenges associated with competitiveness

[7] World Economic Forum, 2008.

in Jamaica include the establishment of the Target Growth Competitiveness Committee (TGCC) under the Private Sector Development Programme (PSDP) of JAMPRO in 2004. The main issues of competitiveness addressed by the TGCC included: the labour market including flexible work hours; enhancement of e-commerce including support for passage of the E-Transactions Act and accompanying legislation; and reform of the business regulatory system.

The issue of productivity is fundamental to Jamaica's long-term economic prospects and in particular to the achievement of competitive production by local companies, including manufacturing enterprises. Economic theory suggests that sustainable increases in real income must be based on increases in productivity. Productivity may be defined as the amount of output produced (in terms of goods or services) per unit input used. Commonly applied measures include labour productivity as output per worker or output per labour-hour, and total productivity as output relative to all inputs used. Both measures have been used in recent years to explore the dynamics of Jamaica's economic performance.

A review of the overall relationship between productivity and competitiveness in the Jamaican economy has indicated that overall labour productivity grew by 2.2% per annum over the period 1980 to 2000 (Downes, 2002), a relatively low increase given the relatively high investment to GDP ratio over the same period. However, other sources indicate that this increase in labour productivity was far outstripped by the growth in real wages, with unit labour costs increasing twice as fast in Jamaica as in its main trading partners from 1994 to 2001 (IMF, 2006a), a trend which would tend to erode Jamaica's international competitiveness. Another study indicates that unit labour productivity in Jamaica fell by a total of 27.5% from 1972-1998, while real unit labour costs rose by 32.5% over the same period.[8] It also has been suggested that total factor productivity has declined during the periods associated with low or negative growth rates in Jamaica, particularly from 1972-1980 and 1993-2000 (IMF, 2006a).

Growth accounting studies that have undertaken decomposition of the factors contributing to the growth in economic production in Jamaica have indicated that, despite positive contributions from accumulation of physical and human capital from 1960-2000, Jamaica has suffered from an overall decline in total factor productivity that is significantly below the average levels achieved globally and within Latin America over the same period.[9] Henry (2001) applies four measures of competitiveness to the Jamaican situation over the period 1986–2000: i) REER; ii) profitability of producing tradable goods; iii) ratio of the price of tradable goods to non-tradable ones; and iv) ratio of the trade balance to total trade. The results indicate a general decline in Jamaica's external competitiveness between 1986 and 2000, based on increases in the costs of production which rose faster than depreciation of the exchange rate.[10] A study that compared the changes in labour productivity in Jamaica to a number of other developed and developing countries (including the United States, Canada, Singapore, Barbados, the Dominican Republic and Trinidad and Tobago) over the period 1960 – 1990 concluded

[8] See Alleyne (2001) as quoted in Hussey (2002).
[9] World Bank (2003), IMF (2006a).
[10] Henry (2001). Quoted by Downes in *Chapter 4: Enhancing Productivity and Competitiveness,* Inter-American Development Bank. (2004).

that Jamaica had the lowest average real GDP per worker and the second lowest rate of growth of labour productivity over this period.[11]

While limited systematic research on the factors affecting productivity in Jamaica has been undertaken to date, the main contributors to low productivity have been identified as including a range of factors as outlined below.[12]

- High relative real costs of productive inputs including labour and capital
- Levels of uncertainty in the macro-economic environment
- Low levels of social capital and trust leading to increased transaction costs and unproductive use of resources in resolution of adversarial labour relations
- Relatively lower levels of worker education and skill levels
- Relatively lower levels of technology and capacity utilization of machinery
- Firm-level factors including inferior production practices, management systems and employee incentive programmes
- High levels of employment in MSEs and informal sector which exhibit relatively lower levels of productivity
- Constraints resulting from inadequate physical infrastructure including roads and public transport systems.

2.3.3 Competitiveness and Productivity in Jamaican Manufacturing

Productivity data from the Jamaica Productivity Centre indicate that labour productivity in the manufacturing sector has reflected the overall decline in labour productivity in the Jamaican economy. Based on the relationship between real value-added GDP and employed labour force in the manufacturing sector, unit labour productivity has fallen by 18.1% between 1972 and 2007. However the sector has shown a turnaround over the past decade with a slow but steady rise in unit labour productivity, rising from $469,000 per worker in 1995 to $562,000 in 2007, an annual increase of 1.5%.[13]

A study undertaken by Trevor Hamilton and Associates in 2000 on the competitiveness of the Jamaican manufacturing sector, using Costa Rica and Trinidad and Tobago for comparison, indicated that the sector was affected by a number of disadvantages. These included competition from Jamaica's relatively large informal sector, high levels of Government borrowing leading to crowding out of private sector access to credit, higher inflation, relatively higher interest and utility rates, higher crime rates and security costs, and lower labor productivity and economic growth rates. Fixed costs are a higher percentage of total manufacturing in Jamaica than in the other countries, reducing the ability of Jamaican manufacturers to compete on costs and price. Jamaica also has experienced lower rates of productivity growth in sectors supporting the manufacturing sector including transport, construction, and finance, which has indirectly affected the competitiveness of the manufacturing sector.[14]

[11] Hussey (2002).
[12] See for example the review carried out in Downes, 2002.
[13] Data provided by the Jamaica Productivity Centre (constant prices with 2000 as base year).
[14] Trevor Hamilton and Associates (2000).

These findings correspond with the results of other studies, for example Wint and Shirley (1995), which indicated that the main challenges to the competitiveness of the manufacturing sector included low worker productivity, high cost of capital, obsolete technology, high operating costs including utilities, and inadequacies in supporting infrastructure and bureaucratic systems. More recently Hussey (2002) concluded that the main issues affecting labour productivity in Jamaica included a lack of national focus on productivity, lack of adequate management and measurement systems and processes, high cost of capital, and education and skill levels of the workforce. It is clear that increasing the relative productivity of the manufacturing sector will be an important aspect of improving the competitiveness of the sector over the long term.

2.3.4 Competitiveness and Strategic Advantage

The Jamaican manufacturing sector has experienced significant challenges that have raised fundamental questions about its competitiveness and its ability to survive in an era of increased liberalization of markets and globalization. These questions persist despite the fact that the sector today accounts for roughly the same percentage of total GDP as it did in the 1960s, which were hailed as the heyday of manufacturing in Jamaica. During the decade between 1984 and 1995 the manufacturing sector displayed the potential to achieve growth levels unmatched by any other sector in the island's post-Independence economic history.

In part, the issue of the competitiveness of the manufacturing sector is prompted by the precipitous decline in the performance of the sector over the period since 1989, and by the rapid decline and even disappearance of industries and companies which had been well-established fixtures of the sector for many years. However, the long-term planning for the manufacturing sector requires a closer look at a number of strategic factors that will allow Jamaican manufacturing firms to achieve and maintain viable positions in an increasingly competitive environment.

Economies of Scale

Most Jamaican manufacturing firms are relatively small by international standards, and consequently are at a disadvantage when faced by competition from large global companies which enjoy economies of scale in production and marketing. It is, however, important to recognize that economies of scale are more important in industries in which the minimum economic size of production[15] is relatively large in comparison to the size of total industry demand, for example in semi-conductors, where a small number of very large and efficient plants can dominate global or regional markets. In these industries small Jamaican manufacturing firms are doomed to fail against global competition despite the most heroic efforts to improve production or marketing efficiencies. For such industries the only possibility for their long-term presence in Jamaica is to convince large international companies to establish manufacturing operations in Jamaica, using the island as a production platform for global markets. However, the trend has been in the opposite direction, as such operations seek to establish global operations in countries with

[15] Or minimum efficient scale (MES), the lowest point on both short run and long run average cost curves for a given industry.

labour cost advantages (such as China) or superior supporting physical and technical infrastructure (such as Singapore).

However, in industries where the minimum economic size is relatively small in comparison to total market size, the competitive position is more favourable to Jamaican manufacturers. For such industries the increase in size tends to introduce diseconomies of scale and decreasing returns at a scale of operation which only accounts for a small fraction of the total industry size, allowing a larger number of producers to survive. The classic examples include industries that are relevant to Jamaica, such as cement manufacturing, petroleum refining and paper manufacturing. Manufacturing plants in these industries that many be considered small or medium-sized by global standards can continue to be competitive, particularly when combined with dominant positions in their domestic markets. It is likely, therefore, that these manufacturing industries are likely to remain competitive in Jamaica over the long term, particularly if they continue to invest in improvements in production and marketing efficiencies.

Transport Costs

The second factor relates to transport costs, which add to the cost of cross-boundary trade. While transport costs (and the associated transaction costs) add to the costs of Jamaican manufacturers seeking to export products to regional and international markets, they also add to the costs of foreign manufacturers seeking to export finished products to the Jamaican market. The effect of transport costs on the final market price of goods will be relatively greater for goods with high bulk-to-value ratios. Transport costs also increase the cost of imported raw materials to Jamaican manufacturers. For Jamaican manufacturers producing goods with high bulk-to-value ratios the effects of transport costs will tend to enhance their ability to compete within the domestic market, particularly for goods that also have relatively low import content. It is likely, therefore, that manufacturers in industries such as industrial minerals processing, agro-processing, food and beverage manufacturing, and packaging and paper products will continue to find viable opportunities in the domestic market based on the relative levels of protection provided by transport costs.

Closeness to Customers

The third factor that will influence the long-term competitiveness of Jamaican manufacturers is closeness to customers, particularly in domestic and regional markets. This advantage allows manufacturers to establish relationships with customers, to meet short-term orders, to customize output to meet client specifications, and to provide a flexible range of supporting services that would be difficult for an external supplier to provide. Examples of manufacturers benefiting from this factor include the printing and packaging sub-sector and furniture and fixtures. However, advances in ICT tend to erode the advantage provided by geographic closeness by allowing distant providers with the technological means to establish strong client relationships.

Brand Jamaica

Jamaica's manufacturing sector also has a significant asset in the value of the national brand, which is based on the relatively high level of international awareness and favourable impressions of Jamaica. Brand Jamaica is an asset that is more valuable outside Jamaica than within, and therefore more valuable to export manufacture, including manufacture for the tourism sector. For manufacturers, aspects of Brand Jamaica may be enforced through geographical indications that protect "Made in Jamaica" for manufactured products that meet local value-added requirements. Additionally, Brand Jamaica will be more valuable to manufactured products that reflect the existing main elements of the brand (which relate for example to creative industries, sport and tourism), and consequently will be more valuable to manufacturers in food processing, alcoholic beverages, textiles and wearing apparel, and branded products generally, and less valuable to manufacturers of bulk and commodity products. The creative use of Brand Jamaica also offers manufacturers the opportunity to position their products in higher value niche markets, an advantage which may help to compensate for smaller scale of production.

Global Competitiveness

It may be noted that most of the strategic factors noted above relate primarily to competitiveness in the domestic market (with the exception of Brand Jamaica). However, these factors alone will not compensate for continued uncompetitive aspects of the supporting environment and infrastructure as discussed above. In particular, the development of export manufacturing will require that Jamaica increase its competitiveness on a sustained basis to levels that are comparable to its regional and global competitors by addressing the main constraints to competitiveness at the national, sector and enterprise levels.

2.4 Issues and Challenges

2.4.1 Competitiveness

As previously discussed, the manufacturing sector has been subjected to the full range of competitive pressures that have challenged the Jamaican economy as the process of market liberalization has unfolded over the past two decades. It is useful to note that since Independence in 1962 the sector has retained most of its share of GDP despite these competitive pressures (see above). Many of the factors affecting competitiveness have been ascribed to constraints in the macro-economic and business environment in which Jamaican manufacturers operate. These include complex regulatory processes, overvalued exchange rates, and relatively high real interest rates.[16] Other factors which limit competitiveness at an industry level and affect the manufacturing sector are listed below.

- Relative cost of labour[17]
- Limited economies of scale resulting from relatively small plants geared for the domestic market
- High costs associated with dealing with crime and security issues in Jamaica
- Limited access and high cost of credit to the manufacturing sector
- Limited access to capital markets including equity markets and venture capital
- High cost of some productive inputs including energy and other utilities
- Low levels of investment in modern technology and business practices
- Impact of constraints in transport and other infrastructure

Correspondingly, the main recommendations for improving Jamaica's productivity are similar to those for improving overall competitiveness, as follows.

- Establishing and maintaining an environment of macro-economic stability and reduced uncertainty
- Training and human resource development programmes
- Development of social partnerships in the public and private sectors
- Improvement of the business environment
- Support for retooling and upgrading of business systems in productive enterprises
- Improvement in infrastructure

2.4.2 Trade Issues

As mentioned in the overview the manufacturing sector has been particularly affected by trade liberalization at the global and regional levels, which have increased the competition faced by the sector, both in export markets and in the domestic market. Within CARICOM Trinidad in particular has emerged as a major manufacturing centre, and has increased its share of manufactured goods imported into the Jamaican market.

[16] See also JMA (1994, 1999) *The Way Forward*.

[17] Studies have indicated that relative labour costs in manufacturing are higher in Jamaica that in other countries in the region (see Hussey 2002).

The main challenges related to trade and competitiveness for the manufacturing sector in Jamaica are listed below.

- Monitoring of rules of origin requirements and re-export of extra-regional goods to Jamaica
- Enforcement of anti-dumping provisions to ensure compliance with international agreements
- Maintenance of competitive exchange rate
- Costs of transportation and trade procedures for importing and exporting
- Impact of CARICOM bilateral agreements on trade within CARICOM including potential impact on the domestic market
- Potential long-term reductions in the Common External Tariff (CET) on manufactured goods based on implementation of the CSME
- Compliance with international product and process standards including Hazard Analysis and Critical Control Points (HACCP) and ISO 9000 and 14000
- Long-term implications of WTO negotiations on access to domestic and export markets for manufactured goods

2.4.3 Productivity

One of the key issues for the long-term competitiveness of the manufacturing sector is the need to improve productivity, including through the measures listed below.

- Increased investment in training of staff and establishment of appropriate production and marketing incentives schemes
- Adoption of modern production technology and management practices
- Retooling and equipment upgrading
- Access to available sources of technical assistance including the Private Sector Development Programme (PSDP)
- Increased capacity utilization through additional production shifts
- Increased application of research and development to manufacturing processes

2.4.4 Environmental Issues

The manufacturing sector also generates a number of environmental pressures which must be addressed in its long-term development, as listed below.

- Contribution to solid waste through non-degradable packaging materials and limited recycling facilities
- Production of solid and liquid wastes from manufacturing processes
- Air pollution particularly in urban areas including the extensive heavy industrial area associated with the Port of Kingston, the heavy industrial activities west of Harbour View and miscellaneous light industries in the Hagley Park Road and adjoining areas.

3. SWOT Analysis

Manufacturing has been a fundamental component in the industrialization and economic 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 Manufacturing 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, form the basis for identifying goals, objectives and strategies that may be used 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 Manufacturing Sector is presented below.

Table 4: SWOT Analysis – Manufacturing Sector

DIMENSION	INTERNAL ANALYSIS	
	STRENGTHS	**WEAKNESSES**
SOURCING AND PROCUREMENT	• Current availability of high quality raw Jamaican materials (including agricultural products, limestone, cement) • Strong international supply relationships • Reduction of duties on imported raw materials	• Poor supply chain management by local manufacturers • Weak procurement networks • Inconsistency in quality and supply of domestic raw materials
PRODUCTION	• Largest contributor to GDP of all goods-producing sectors • World-class enterprises in several manufacturing sub-sectors and industries (including food processing and beverage industries, paint, plastic containers) • Ability to make high quality products • Numerous small and diverse	• Insufficient product development • Lack of support services (e.g. maintenance, environmental services etc.) • Outdated processes, systems and work organization • Low existing productivity • Low existing capacity utilization (e.g. single-shift production) • Limited application of clean technology in production

	production facilities allowing for a range of focused niche markets and products	• Limited economies of scale
MARKETING	• Attractive Brand Jamaica appeal • Established niche markets and products	• Weak knowledge of external consumers, technology, and marketing trends • Limited innovation to match evolving market trends • Inadequate levels of matching quality, environmental, health and packaging standards
FINANCE	• Downward trend in deposit interest rates making equity investments in manufacturing relatively more attractive	• Lack of low cost capital to fund expansion • Lack of venture capital and incentives for start-ups and MSMEs
TRANSPORT AND LOGISTICS		• Inadequate supply chain management • Shortages in warehousing
HUMAN RESOURCES	• Large employer of labour • Pool of trainable workforce • Innovativeness of people • Success of pay for performance systems	• Limited entrepreneurial spirit • Limited availability of skills necessary to build viable businesses including: - Marketing - Quality Assurance - Production/Factory Management - Technical/Engineering /Maintenance • Low worker motivation
TECHNOLOGY	• Some plants significantly retooled with modern technologies • Emerging usage of technological work e-aids • Information Technology Centre at the JMA's office	• Inadequate plant systems and new technologies • Mismatch of market trends/needs and technical applications • Low utilization of Quality Management Systems (QMSs) • Weak linkages to R&D resources (private and academic), e.g.: SRC, SIRI. • Weak product innovation

ENVIRONMENT	• Availability of some 'green' raw materials	• Limited use of environmentally friendly/clean production technologies • Lack of use of waste as a resource • Low utilization of Environmental Management Systems (EMSs)
GENERAL	• Industry competitors increasingly working together for common good	• Lack of data on sector • Limited capacity of Private Sector Organizations (PSOs) • Limited capacity of regulatory organizations (e.g. Bureau Of Standards) • Significant suspicion still remaining between local manufacturers
DIMENSION	**EXTERNAL ANALYSIS**	
	OPPORTUNITIES	**THREATS**
SOURCING AND PROCUREMENT	• Expansion potential for local raw materials • Potential introduction of rapid growth trees for soft-wood lumber • Applications of bio-technology to agricultural raw materials • Pooled/joint purchasing by domestic manufacturers • Ease of access to US, European and Far Eastern shipping routes via the Port of Kingston and Panama Canal	• Increased demand for raw materials in other developing countries (e.g. China) leading to upward pressure on prices and supply shortages
PRODUCTION	• Available techniques to increase competitiveness through raising productivity • Available equipment and processes for re-tooling	• Uncompetitive energy costs • Emergence of China and other low-cost production centres

MARKETING	• Trade liberalization providing enhanced access to export markets • Marketing and selling worldwide under the unique "Brand Jamaica" umbrella • Made in Jamaica has strong international market appeal • Expansion of regional market access through CSME • Growth of wellness industry • Growing demand for nutraceuticals, herbs and spices • Increasing reach of Internet marketing/e-commerce • Strong ethnic markets including Jamaican Diaspora	• Global economic downturn which may reduce the demand for manufactured exports from Jamaica and lead to contraction in the local industry • Impact of trade liberalization on uncompetitive products and industries • Imports of dumped products • Imports of products that do not meet minimum acceptable safety standards • Potential damage to "Brand Jamaica" leading consumers to buy away from the sector • Exports of Jamaican "knock-offs" • Violation of geographic indicators for Made in Jamaica by foreign manufactured products
FINANCE	• Strategic cross-border alliances and partnerships • Potential growth from reduced interest rates	• High interest rate spreads • Potential increases in cost of capital • Alternative unregulated investment vehicles as diversion of capital from investments in real sector • Uncompetitive cost of capital
TRANSPORT AND LOGISTICS	• International delivery providers present in Jamaica • Freight consolidation • Proximity to global shipping routes • Major transshipment port with planned expansion • Good primary road network	• Inadequate control and monitoring at ports, enabling illegal importation of products into the country • Delays in shipping and across port clearance • Problems with road network in some areas
HUMAN RESOURCES	• Manufacturing skills readily transferable to other sub-sectors	• Brain drain of skilled persons • Poor work attitudes • Lack of trust and social capital

TECHNOLOGY	• Advanced tele-communications infrastructure • Existing technologies for waste optimization • Spinning cone technology for extraction of essential oils and flavours • Opportunity to transfer technology from foreign investors and suppliers	• Intense and ongoing international adoption of new technologies by foreign competitors
ENVIRONMENT	• Growing demand for environmentally-friendly products	• Impact of international environmental laws as potential barriers to trade • Potential impact of natural and man-made hazards on sector
GENERAL	• Increased integration with other sectors including agriculture, tourism, mining and quarrying and telecoms	• Risks to macro-economic stability • Crime and violence • Weaknesses in collaboration between public and private sectors • Lack of a long term plan to increase linkages with other sectors • Potential impact of unfair international trade practices by competitors (dumping, subsidies, non-tariff barriers etc.) on market for local manufactured goods

4. Strategic Vision and Planning Framework

The long-term process of planning for the Manufacturing 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 contains an overall Vision for the Manufacturing Sector, which is based on other relevant national visions and reflects the contributions of the stakeholders represented on the Manufacturing Task Force.

4.1 Vision Statement

The Vision Statement for the Manufacturing Sector for Vision 2030 Jamaica is:

> **"A dynamic, vibrant, market led manufacturing sector making high value added world class products desired by consumers everywhere, using appropriate technologies and environmentally sustainable processes, linked to other sectors, with motivated, productive employees, within an enabling business and regulatory environment"**

4.1.1 Strategic Vision

The long-term strategic vision for the Manufacturing Sector in Jamaica is built on a number of fundamental elements, as listed below.

i) A manufacturing sector that achieves and maintains international competitiveness at the sector and enterprise levels;

ii) A manufacturing sector that markets products that have appeal in domestic and international markets and take advantage of the strength of the nation brand;

iii) A manufacturing sector that is increasingly linked to other economic sectors in Jamaica and makes a significant contribution to economic growth and employment;

iv) A manufacturing sector that is environmentally sustainable based on sustainable use of natural resources, increased resilience to hazards and reduction of negative environmental impacts;

v) A manufacturing sector that employs increased levels of appropriate and relevant research and technology;

vi) A manufacturing sector that has outstanding human resources and leadership;

vii) A manufacturing sector that is supported by a facilitatory policy and legislative framework and efficient business environment.

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

4.2 Strategic Planning Framework

4.2.1 Strategic Approach

The manufacturing sector is, and will remain, a fundamental component of Jamaica's economy. The fundamental strategic approach taken by Vision 2030 Jamaica is to improve the performance and competitiveness of the manufacturing sector through the following steps.

i) Improve the productivity of the manufacturing sector[18]
   - Capital deepening
   - Labour force quality
   - Total factor productivity

ii) Improve the economic and market opportunities of the manufacturing sector
   - Inter-sectoral linkages
   - Quality and service
   - Market access
   - Brand Jamaica

iii) Improve the environmental sustainability of the manufacturing sector
   - Environmental management and standards
   - Hazard mitigation and resilience

The productivity of the manufacturing 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 productivity of the sector. Vision 2030 Jamaica starts by focusing on improving the quality of the human resources for the manufacturing sector through a range of strategies, including to: improve the quality and relevance of training and accreditation at educational and training institutions by strengthening linkages to the manufacturing sector; improve industrial relations in the sector; and strengthen human resource management best practices in the sector.

The Manufacturing Sector Plan also seeks to increase productivity through capital deepening by enhancing the conditions for financing, capital investment and the application of technology in manufacturing. One of the key strategic proposals in this regard is to establish a Centre of Excellence for manufacturing to serve as a focal point

[18] 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.

for development and dissemination of best practices for the sector. To improve total factor productivity for the manufacturing sector Vision 2030 Jamaica recommends a range of strategies, including to: improve customs and clearance processes; improve access to capital; support international policies including trade which positively impact the manufacturing sector; participate in national and community initiatives to reduce crime and violence; strengthen relevant industry associations including the JMA, JEA and SBAJ; and ensure availability of and access to competitive factory space.

As Jamaican manufacturers increase their productivity and competitiveness, Vision 2030 Jamaica seeks to widen their opportunities to compete in domestic, regional and international markets. In this regard the sector plan includes strategies to: strengthen linkages between the manufacturing sector and other sectors; promote the adoption of quality management and production systems and standards; improve customer service within the sector; develop mechanisms to manage effectively shipping and distribution costs; enforce intellectual property aspects of Brand Jamaica; and use creative aspects of Brand Jamaica in marketing Jamaican manufactured products.

The Plan does not seek to target specific areas within these industries for preferential treatment, but provides for an efficient and enabling business environment and infrastructure which can support the development of value-added production in a range of manufacturing industries where competitive advantages already exist or may be built in the future.

Finally, Vision 2030 Jamaica seeks to improve the environmental sustainability of the manufacturing sector through strategies to: promote and encourage compliance with relevant environmental regulations and standards; encourage development and use of environmentally friendly products and processes; encourage sustainable waste management practices including waste reduction, reuse and recycling; promote clean technology and use of alternative energy; and strengthen relationship of the manufacturing sector with the national disaster preparedness and emergency management systems.

4.2.2 Goals and Outcomes

The five (5) main goals and associated outcomes of the Manufacturing Sector Plan are presented below. The Sector Goals represent the ultimate desired state of the Manufacturing 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 provide quantitative milestones against which progress in implementing the Manufacturing Sector Plan over time may be measured.

Table 5: Manufacturing Sector Goals and Outcomes

GOALS	OUTCOMES
1.0:- A highly competitive manufacturing sector	1.1:- A workforce with a high level of appropriate skills
	1.2:- A highly motivated workforce
	1.3:- Application of high levels of appropriate capital and technology
	1.4:- High levels of materials and process cost-efficiency
	1.5:- High levels of company sophistication and business performance
2.0:- An enabling business environment which fosters and supports the establishment, survival and growth of manufacturing enterprises	2.1:- Streamlined and facilitatory bureaucracy
	2.2:- An economy in which capital is equitably and competitively available for the sector
	2.3:- A manufacturing sector with competitive access to national and international markets
	2.4:- A socially stable and secure business environment
	2.5:- Strengthened industry associations
	2.6:- Competitive infrastructure for manufacturing
3.0:- A manufacturing sector with strong inter-sectoral linkages	3.1:- Increased backward integration into local economy
	3.2:- Increased forward integration into local economy
4.0:- A manufacturing sector which is environmentally sustainable	4.1:- A manufacturing sector with high levels of application of environmental management
	4.2:- Industries with strong hazard mitigation systems and practices
5.0:-A sector which produces goods that meet and exceed the expectations of customers	5.1:- Competitively priced products
	5.2:- Innovative products of high quality
	5.3:- A sector which gives excellent distribution, delivery of shopping experience and customer service
	5.4:- Brand Jamaica established for internationally known, accepted and sought after Jamaican manufactured products

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 Manufacturing 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 Manufacturing 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 Manufacturing Sector Plan over the period 2009 -2030 are presented in Table 6 below.

Table 6: Manufacturing Sector Plan – Proposed Indicators and Targets

Manufacturing Sector Plan					
PROPOSED OUTCOME INDICATORS	**BASELINE**	**PROPOSED TARGETS**			**COMMENTS**
	2007 or Most current	**2012**	**2015**	**2030**	
% change in exports of manufactures (value not volume) (Average growth for the period)	7.3%	10%	13%	≥ 14%	Target is to achieve current annual growth rates for world exports of manufactures.
Average % change in exports of manufactures (Value-added??) (%)	7.30%	10%	13%	≥ 14%	
Labour productivity growth rate (%)	-8%	3.31%	3.95%		
% change in industrial relations indicators (%): • **Industrial disputes** • **Work stoppages** • **Days lost** **(per person-hours worked)**					
Jamaica's share of global manufacturing output (%)					
Loans to manufacturing sector in real dollars as % of GDP					
% change in available (modern) factory space					
Comparative factory rates					

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

5.1 Implementation Framework

The implementation of the Manufacturing 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 including the private sector, NGOs and CBOs. The involvement of stakeholders is fundamental to the successful implementation of the National Development Plan and the Manufacturing 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 prioritisation 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 Manufacturing 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 Manufacturing Sector Plan, the main MDAs comprising the relevant Sectoral Focal Point will include the Ministry of Industry, Investment and Commerce, Jamaica Trade and Invest and the Trade Board.

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 Manufacturing 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 Manufacturing 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 annual sectoral reports** compiled by the Sectoral Focal Points for submission to the Vision 2030 Jamaica Technical Monitoring Committee. 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 Manufacturing 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 Manufacturing Sector Plan represents the basis for implementation of the Vision 2030 Jamaica – National Development Plan in the Manufacturing sector. The key steps in the implementation process for the Manufacturing Sector Plan are set out below.

1. Undertake consultations with stakeholders in the sector to present and review the Manufacturing 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 Manufacturing Sector Plan for 2012, 2015 and 2030;

3. Mainstream the Manufacturing 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 Manufacturing 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 Manufacturing Sector Plan.

6. Action Plan for the Manufacturing Sector

The Action Plan represents the main framework for the implementation of the Manufacturing Sector Plan for Vision 2030 Jamaica. The tracking of implementation of the Manufacturing 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 – NATIONAL DEVELOPMENT PLAN
MANUFACTURING SECTOR PLAN
REVISED STRATEGIC FRAMEWORK AND ACTION PLAN

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
Goal # 1: A highly competitive manufacturing sector				
1.1:- A workforce with a high level of appropriate skills	**1.1.1:-** Improve quality and relevance of training and accreditation at educational and training institutions by strengthening linkages to the manufacturing sector	1.1.1.1 Strengthen basic & primary level education covering English Language, Mathematics and Science subjects	MOE	Years 1-9 Ongoing
		1.1.1.2 Strengthen "popularization" of Science, Technology, Innovation and standardization in schools	SRC, MOE	Years 1-9 Ongoing
		1.1.1.3 Include foreign languages in basic and primary curriculum and increase exposure to foreign languages to ensure fluency/proficiency in at least one foreign language: e.g., Spanish, Chinese	MOE	Years 1-9 Ongoing
		1.1.1.4 Establish greater business linkages with tertiary level natural sciences programs	Universities, individual manufacturers, JMA, JEA, SBAJ	Years 1-3
		1.1.1.5 Strengthen linkages and develop regular schedule of dialogue between manufacturing sector associations, government and relevant faculties at universities	MOE, Universities, MIIC, JMA, JEA, SBAJ	Years 1-3
		1.1.1.6 Strengthen links between natural science faculties (UWI, UTECH, etc) and business schools	Universities	Years 1-3
		1.1.1.7 Build social contract among businesses, educational institutions and GOJ	Universities, MIIC, JMA, JEA, SBAJ	Years 1-3
		1.1.1.8 Include an ethics & integrity corporate governance component/module in all levels of schools and their curricula	MOE, Universities	Years 1-9 Ongoing
	1.1.2:- Increase exposure of students and	1.1.2.1 Develop co-op programme to systematically blend work and school in 4 month/semester blocks	MOE, universities, individual manufacturers, JMA,	Years 1-9 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	teachers at secondary and tertiary levels to the manufacturing sector		JEA, SBAJ	
		1.1.2.2 Develop internship programmes and project assignments for tertiary students related to manufacturing	MOE, universities, individual manufacturers, JMA, JEA, SBAJ	Years 1-6 Ongoing
		1.1.2.3 Develop symbiotic links between work place and school to build work experience and expose students to manufacturing industries	MOE, universities, individual manufacturers, JMA, JEA, SBAJ	Years 1-6 Ongoing
		1.1.2.4 Expose students in teacher training colleges to manufacturing industries	Teacher training colleges, individual manufacturers, JMA, JEA, SBAJ	Years 1-3 Ongoing
	1.1.3:- Strengthen links with local and external training providers	1.1.3.1 Use SME clusters to access local and external training services to build core skills	JMA, JEA, SBAJ	Years 1-6 Ongoing
	1.1.4:- Improve training for existing staff	1.1.4.1 Develop guidelines and benchmarks (e.g. % of sales) for training expenditures	JMA, JEA, SBAJ, manufacturers	Years 1-3 Ongoing
		1.1.4.2 Develop and strengthen links with HEART/NTA, NCTVET, MIND, possible UTECH, UWI – to certify training programmes (firm, cluster)	HEART/NTA, NCTVET, MIND, JMA, JEA, SBAJ, JAPA, manufacturers	Years 1-6 Ongoing
		1.1.4.3 Ensure HEART certification to be assessed and revised in conjunction with businesses/manufacturers	MOE, HEART/NTA, NCTVET, MIND, JMA, JEA, SBAJ, JAPA, manufacturers	Years 1-3 Ongoing
		1.1.4.4 Provide certification for continuing /on-the job training	HEART/NTA	Years 1-6 Ongoing
		1.1.4.5 Provide tax credits for on-the-job training (worker development, building competitiveness, productivity etc)	MOFPS, MIIC, HEART/NTA	Years 1-6 Ongoing
1.2:- A highly motivated workforce	**1.2.1:-** Improve industrial relations in sector	1.2.1.1 Establish agreed social contract between GOJ, private sector, trade unions, and other key partners	OPM, PSOJ, JMA, JCTU	Years 1-3 Ongoing
		1.2.1.2 Conduct biennial review of social contract	OPM, PSOJ, JMA, JCTU	Years 3-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		1.2.1.3 Develop appropriate employment laws	MLSS, JEF, JMA, JCTU	Years 1-6 Ongoing
		1.2.1.4 Conduct scheduled review of Employment and Labour Laws	MLSS, JEF, JMA, JCTU	Every 5-10 years
	1.2.2:- Promote conformance to occupational safety and health legislation and regulations	1.2.2.1 Review, revise and promulgate Draft Occupational Health & Safety Act	MLSS	Years 1-3
	1.2.3:- Encourage participatory decision-making and team building for staff	1.2.3.1 Provide training and exposure for managers to modern approaches and good practices in team building, decision making, management	JMA, JEF, SBAJs -- all associations	Years 1-6 Ongoing
	1.2.4:- Strengthen human resource management best practices in sector	1.2.4.1 Improve recruitment of suitable applicants	Individual manufacturers, JMA	Years 1-6 Ongoing
		1.2.4.2 Improve process of matching assignment of staff to job positions with their aptitude and qualifications	Individual manufacturers	Years 1-6 Ongoing
1.3:- Application of high levels of appropriate capital and technology	**1.3.1:-** Increase exposure of manufacturers to relevant and innovative production technologies	1.3.1.1 Facilitate the procurement of appropriate equipment and machinery through affordable financing and incentives	DBJ, EXIM, JTI, MIIC, MOFPS, Customs	Years 1-6 Ongoing
		1.3.1.2 Pursue the removal of duties on manufacturing spares and supplies	DBJ, EXIM, JTI, MIIC, MOFPS, Customs	Years 1-3
		1.3.1.3 Establish strategic alliances with research and development institutions and tertiary institutions (locally and internationally) for the procurement and pilot testing of "cutting edge" technologies	JMA, SRC, JAPA, universities, individual manufacturers	Years 1-6 Ongoing
	1.3.2:- Strengthen links to technology suppliers	1.3.2.1 Increase attendance at trade shows with technology suppliers	JMA, SRC, JTI, JAPA, individual manufacturers	Years 1-6 Ongoing
		1.3.2.2 Invite overseas technology suppliers to participate in local trade shows	JMA, JEA, JTI, JAPA	Years 1-6 Ongoing
		1.3.2.3 Develop networks to disseminate information on available technology suppliers	JMA, JEA, JTI, SRC, JAPA, universities, individual manufacturers	Years 1-6 Ongoing
		1.3.2.4 Establish strategic links with Diaspora groups for identifying and procuring appropriate	JMA, MFAFT, AmCham, JEA,	Years 1-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		technologies/equipment etc.	Diaspora groups	
		1.3.2.5 Encourage manufacturers to develop links to leading brands and international manufacturers to enable technology transfer	JMA, JEA, JTI, SRC, JAPA, universities, individual manufacturers	Years 1-9 Ongoing
	1.3.3:- Provide financial and technical support for enterprise modernization	1.3.3.1 Facilitate sourcing of low cost development funds for manufacturers, including from GOJ (via DBJ), IFC, EXIM, IDB, etc, via AFIs	MIIC, MOFPS, JTI, JMA, JEA, SBAJ, JBDC	Years 1-6 Ongoing
		1.3.3.2 Facilitate knowledge transfer of world class practices via hosting seminars, mentoring,	JTI, JMA, JEA, SBAJ, JBDC, PSOJ, BSJ	Years 1-6 Ongoing
1.4:- High levels of materials and process cost-efficiency	**1.4.1:-** Develop capacity of local manufacturers in energy efficiency	1.4.1.1 Adopt Cleaner Production Mechanism (CPM) through promotion of incentives (Carbon Credits) and capital financing available	MOE, SRC, PCJ, MOFPS	Years 1-6 Ongoing
		1.4.1.2 Encourage broader use of co-generation output of energy by manufacturers	MOE, SRC, PCJ, JMA	Years 1-9 Ongoing
		1.4.1.3 Promote best practices in design of new facilities and retro-fitting of existing facilities to maximize energy efficiency	MOE, SRC, PCJ, JMA	Years 1-6 Ongoing
	1.4.2:- Develop capacity of local manufacturers in materials and process efficiencies	1.4.2.1 Develop benchmarks and best practices and share amongst manufacturing sector	Individual manufacturers, JMA, universities	Years 1-6 Ongoing
		1.4.2.2 Strengthen training and mentoring in Toyota manufacturing methods, lean manufacturing, and other tools	Individual manufacturers, JMA, universities	Years 1-6 Ongoing
	1.4.3:- Benchmark productivity and manufacturing costs of manufacturing sector to international standards in comparable industries	1.4.3.1 Establish internal and external benchmarks for key productivity indicators (e.g. costs of production) (local, regional, international)	Jamaica Productivity Centre, JMA	Years 1-3 Ongoing
	1.4.4:- Encourage collaboration and pseudo-group buying of inputs to obtain	1.4.4.1 Promote benefits (associations)	JMA, JEA, SBAJ	Years 1-3 Ongoing
		1.4.4.2 Determine rules of engagement, and commence on a trial basis	JMA, JEA, SBAJ	Years 1-3 Ongoing
		1.4.4.3 Develop bulk purchasing mechanism	JMA, JEA, SBAJ	Years 1-6

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	lower unit cost of supplies			Ongoing
	1.4.5:- Promote conversion to lower cost energy sources	1.4.5.1 Encourage conversion via seminars, funding, clear outlines of costs and benefits	JMA, JEA, SBAJ, JBDC	Years 1-3 Ongoing
	1.4.6:- Develop outsourcing of business processes	1.4.6.1 Encourage establishment of financial, HR, purchasing bureaux that can serve multiple small businesses concurrently, with appropriate firewalls	JMA, SBAJ, JBDC	Years 1-6 Ongoing
	1.4.7:- Encourage greater capacity utilization including through partnering between manufacturers	1.4.7.1 Create a database of available capacity at the JMA, and JMA to act as 'honest broker' in putting potential partnerships together	JMA	Years 1-6 Ongoing
		1.4.7.2 Explore possibilities of "free zone" production for exports	MIIC, JMA	Years 1-6 Ongoing
	1.4.8:- Encourage efficiency in key suppliers including transportation and construction service providers	1.4.8.1 Strengthen the relationship between industry associations	PSOs	Years 1-6 Ongoing
		1.4.8.2 Backward integration of value chains (e.g. through partnering etc.)	PSOs, MOAF, JAPA	Years 1-9 Ongoing
1.5:- High levels of company sophistication and business performance	**1.5.1:-** Establish a centre of excellence for manufacturers	1.5.1.1 Develop plan for establishment of centre of excellence based on global best practices	JMA	Years 1-3 Ongoing
		1.5.1.2 Develop range of functions of centre of excellence including: - Develop capacity of local manufacturers in cost accounting and control, product costing and pricing - Develop capacity of local manufacturers in supply chain management - Develop capacity of local manufacturers in record keeping, financial reporting, business performance reporting and loan applications	JMA	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		- Provide centralized export market development and support - Provide centralized business support services		
	1.5.2:- Establish business incubators for manufacturing enterprises	1.5.2.1 Utilize the capacities established in the BSJ, SRC and JBDC	JBDC, BSJ, SRC	Years 1-6 Ongoing
Goal # 2: An enabling business environment which fosters and supports the establishment, survival and growth of manufacturing enterprises				
2.1:- Streamlined and facilitatory bureaucracy	**2.1.1:-** Encourage and participate in improving customs and clearance processes for imports and exports	2.1.1.1 Switch from a 'evasion assumed' to 'honesty assumed' model, with a strengthening of the audit and enforcement teams of customs (allow the goods off the wharf, but massive, company-destroying penalties for tax evasion)	MOFPS (Customs), PSOs	Years 1-3 Ongoing
	2.1.2:- Promote simplifying of tax payment processes	2.1.2.1 Lobby for government to move completely to e-payment of all taxes, duties, fees	MOFPS (Customs), PSOs, Trade Board	Years 1-3 Ongoing
		2.1.2.2 Lobby for government to simplify the tax structure	PSOs	Years 1-3 Ongoing
	2.1.3:- Foster improved business operation involving interaction between government and business sector	2.1.3.1 Promote consistency in application of regulations to all companies	PSOs	Years 1-3 Ongoing
		2.1.3.2 Encourage and participate in improving the business establishment processes	PSOs	Years 1-3 Ongoing
		2.1.3.3 Establish unified food safety agency	Food Advisory Committee	Years 1-3 Ongoing
	2.1.4:- Strengthen long-term planning for the manufacturing sector	2.1.4.1 Strengthen relationship between the relevant Ministries and the manufacturers, at the planning and implementation stages	JMA, MIIC	Years 1-6 Ongoing
		2.1.4.2 Enhance statistical methods to improve forecasting	PIOJ, STATIN, JMA, JPC	Years 1-6 Ongoing
2.2:- An economy in which capital is	**2.2.1:-** Encourage competitive	2.2.1.1 Source lowest cost funds to pass on to the productive sector	EXIM Bank DBJ	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
equitably and competitively available for the sector	interest rates on financing for manufacturers			
	2.2.2:- Improve access to capital	2.2.1.2 Increase access to a Risk Capital Pool for viable projects/businesses which lack collateral security or establish venture capital	EXIM Bank DBJ	Years 1-3 Ongoing
		2.2.1.3 Ensure that appropriately priced Trade Credit Insurance (Export and Domestic) is available to assist our manufacturers and exporters in their business development initiatives	EXIM	Years 1-3 Ongoing
	2.2.3:- Broaden capital markets for manufacturers	2.2.3.1 See 2.2.2, plus Junior Stock Exchange	Jamaica Stock Exchange, and merchant banks	Years 1-6 Ongoing
2.3:- A manufacturing sector with competitive access to national and international markets	**2.3.1:-** Support and encourage international policies (including trade) which positively impact the manufacturing sector	2.3.1.1 Active participation in trade negotiations by manufacturers	MFAFT, JTAT, CAIC, JMA	Years 1-3 Ongoing
		2.3.1.2 Build capacity of the PSOs in trade negotiations (e.g. in-house trade specialist(s))	MFAFT, JTAT, CAIC, JMA	Years 1-6 Ongoing
	2.3.2:- Support and participate in trade negotiations	2.3.2.1 Provide funding for participation in trade negotiations by industry representatives	JMA, JEA, JCC	Years 1-3 Ongoing
	2.3.3:- Develop mechanisms and systems to protect against illegal imports, dumping and uncustomed goods	2.3.3.1 Lobby for creation of a one-stop surveillance team (Customs, BSJ, others) targeting retailers	PSOs, MOFPS, MIIC, MOAF, MoH	Years 1-3 Ongoing
	2.3.4:- Strengthen commercial capacity of embassies and	2.3.4.1 Develop linkages with embassies and consulates in key overseas investment and trade markets	MFAFT, JMA, JEA, JTI	Years 1-3 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	consulates			
	2.3.5:- Enhance promotion of Jamaica as destination for investment in the manufacturing sector	2.3.5.1 Participate in investment and trade missions and events	MFAFT, MIIC, PSOs	Years 1-3 Ongoing
2.4:- A socially stable and secure business environment	**2.4.1:-** Develop and or establish an effective system for dealing with commercial disputes	2.4.1.1 Seek access to international commercial dispute resolution at affordable cost	MFAFT, CCJ	Years 1-6 Ongoing
	2.4.2:- Improve efficiency and effectiveness of courts system	2.4.2.1 Lobby for improved efficiency and effectiveness of courts system for commercial dispute resolution and criminal cases	PSOs	Years 1-6 Ongoing
	2.4.3:- Participate in national and community initiatives to reduce crime and violence	2.4.3.1 Strengthen participation in national anti-crime initiatives including Crime Stop and Kingfish	PSOs	Years 1-3 Ongoing
		2.4.3.2 Support community-level peace and anti-crime initiatives and projects including community policing	PSOs	Years 1-3 Ongoing
	2.4.4:- Enhance corporate social image	2.4.4.1 Encourage manufacturing enterprises to operate with integrity and ethical codes of practice	JMA	Years 1-3 Ongoing
		2.4.4.2 Undertake programmes to strengthen communities in collaboration with public sector and civil society partners	PSOs	Years 1-3 Ongoing
2.5:- Strengthened industry associations	**2.5.1:-** Strengthen relevant industry associations including the JMA, JEA and SBAJ	2.5.1.1 Develop strategic partnerships & collaborative relationships in keeping with JTI's Stakeholder Strategy	MIIC, JTI JMA, JEA, SBAJ	Years 1-3 Ongoing
	2.5.2:- Strengthen	2.5.2.1 Strengthen collaboration and communication	JMA, JEA, SBAJ, JAS,	Years 1-6

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	relationships with other sector associations	between various associations, and agree roles and responsibilities of each sector (e.g. JMA speaks to the productive sector, PSOJ speaks to security)	JAPA, PSOJ, JCC, JHTA, JBA, JEF, HMA	Ongoing
		2.5.2.2 Move towards a unified voice for each broad sector in relationships with the public sector and civil society	JMA, JEA, SBAJ, JAS, JAPA, PSOJ, JCC, JHTA, JBA, JEF, HMA	Years 1-3 Ongoing
	2.5.3:- Strengthen regional and international relationships	2.5.3.1 Increase participation in CAIC	JMA, JEA, SBAJ, JAS, JAPA, PSOJ, JCC, JHTA, JBA, JEF, HMA	Years 1-3 Ongoing
	2.5.4:- Strengthen relationships with the Jamaican Diaspora	2.5.4.1 Participate in Diaspora conferences and exhibitions	MIIC, JTI JMA, JEA, SBAJ, MFAFT	Years 1-6 Ongoing
		2.5.4.2 Utilize embassies and JTI to connect with Diaspora populations	MIIC, JTI JMA, JEA, SBAJ, MFAFT	Years 1-3 Ongoing
		2.5.4.3 Develop links with building societies to their Diaspora bases	MIIC, JTI JMA, JEA, SBAJ, MFAFT	Years 1-6 Ongoing
2.6:- Competitive infrastructure for manufacturing	**2.6.1:-** Ensure availability and access to competitive factory space	2.6.1.1 Manage and promote rentable factory space	MIIC, FCJ	Years 1-3 Ongoing
		2.6.1.2 Undertake feasibility and planning studies for the development of Caymanas Economic Free Zone	MIIC	Years 1-3 Ongoing
	2.6.2:- Provide supportive production facilities for small manufacturers	2.6.2.1 Establish Enterpreneurial Production Centres for small and community-based manufacturing enterprises	MIIC	Years 1-9 Ongoing
Goal # 3: A manufacturing sector with strong inter-sectoral linkages				
3.1:- Increased backward integration into local economy	**3.1.1:-** Identify and create awareness and facilitate opportunities for linkages	3.1.1.1 Establish appropriate marketing and information systems to bring together purchasers in the manufacturing sector and producers in linkage sectors	MOAF, RADA, JMA, JEA, JAS, JAPA, JTI, JBDC	Years 1-6 Ongoing
		3.1.1.2 Develop marketing strategy for Things	MIIC, JBDC	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	between manufacturing sector and other sectors	Jamaican suppliers		Ongoing
	3.1.2:- Encourage and strengthen local producers to meet demands of purchasers in manufacturing sector	3.1.2.1 Establish and maintain database of raw material suppliers (who, what, how much per period etc), and the projected demand per period for the raw materials, in order to match demand and supply, including through development of an industry purchasing planning platform.	MOAF, RADA, JMA, JEA, JAS, JAPA, JTI	Years 1-3 Ongoing
3.2:- Increased forward integration into local economy	**3.2.1**:- Identify, create awareness and facilitate opportunities for linkages between manufacturing sector and purchasers in linkage sectors and industries	3.2.1.1 Establish appropriate marketing and information systems to bring together producers in the manufacturing sector and purchasers in linkage sectors	MOAF, RADA, JMA, JEA, JAS, JAPA, JTI, JBDC	Years 1-3 Ongoing
		3.2.1.2 Work with relevant sector associations and agencies to increase range and strengthen demand for locally manufactured products	MOAF, RADA, JMA, JEA, JAS, JAPA, JTI, JBDC	Years 1-6 Ongoing
Goal # 4: A manufacturing sector which is environmentally sustainable				
4.1:- A manufacturing sector with high levels of application of environmental management	**4.1.1:-** Promote environmental awareness and management in sector	4.1.1.1 Encourage manufacturers to adopt environmental management systems (EMS) to achieve environmental standards and certification including ISO 14001	JMA, JEA, JAPA, NEPA	Years 1-6 Ongoing
		4.1.1.2 Promote regular environmental and energy audits	JMA, JEA, NEPA, PCJ	Years 1-9 Ongoing
		4.1.1.3 Promote clean energy usage	JMA, JEA, NEPA, PCJ	Years 1-6 Ongoing
		4.1.1.4 Promote use of environmentally sustainable packaging	JMA, JEA, NEPA, BSJ	Years 1-9 Ongoing
	4.1.2:- Support environmental efforts at the community and	4.1.2.1 Encourage manufacturers to support community-based initiatives to identify and mitigate environmental risks	PSOs, NEPA	Years 1-6 Ongoing
		4.1.2.2 Collaborate with national stakeholders to	PSOs, NEPA	Years 1-3

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	national levels	strengthen environmental sustainability		Ongoing
	4.1.3:- Promote and encourage compliance with relevant environmental regulations and standards	4.1.3.1 Encourage increasing levels of self-regulation within sector	NEPA, PSOs	Years 1-6 Ongoing
		4.1.3.2 Strengthen consultation and participation by manufacturers in reviewing and improving environmental regulations and standards	NEPA, JMA, JEA, MIIC	Years 1-6 Ongoing
		4.1.3.3 Use environmental conformance assessments as marketing and corporate social responsibility levers	NEPA, JMA, JEA, MIIC	Years 1-6 Ongoing
	4.1.4:- Encourage development and use of environmentally friendly products and processes	4.1.4.1 Provide incentives to encourage introduction of environmentally friendly technologies	MOFPS, MIIC, NEPA, MEM	Years 1-6 Ongoing
	4.1.5:- Encourage sustainable waste management practices including waste reduction, reuse and recycling	4.1.5.1 Develop businesses focused on reusing and recycling of waste products	JMA, JEA, NEPA, NSWMA	Years 1-9 Ongoing
	4.1.6:- Promote clean technology and use of alternative energy	4.1.6.1 Utilize demonstration entities to illustrate cost : benefit of renewable energy	MEM, PCJ	Years 1-9 Ongoing
		4.1.6.2 Provide incentives for the use of renewable energy	MOFPS	Years 1-6 Ongoing
		4.1.6.3 Seek funding support from international development partners for introduction of renewable energy technologies	PCJ, JMA	Years 1-6 Ongoing
4.2:- Industries with strong hazard mitigation systems and practices	**4.2.1:-** Encourage adoption of hazard mitigation and emergency management practices	4.2.1.1 Promote the development and adoption of robust business continuity plans by manufacturing enterprises	JMA	Years 1-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	4.2.2:- Strengthen relationship of sector with national disaster preparedness and emergency management system	4.2.2.1 Strengthen linkages between umbrella organizations and national disaster preparedness and emergency management system, including throughout the prevention, preparation, response and recovery phases	PSOs, ODPEM	Years 1-3 Ongoing
		4.2.2.2 Encourage collaboration between manufacturing enterprises and community-level disaster committees	JMA, ODPEM	Years 1-6 Ongoing
Goal # 5: A sector which produces goods that meet and exceed the expectations of customers				
5.1:- Competitively priced products	**5.1.1:-** Develop a system to track prices and consumers' preferences	5.1.1.1 Develop and market local equivalent of the Neilson sales database in North America	JCC, JMA, Statin	Years 1-6 Ongoing
		5.1.1.2 Perform periodic market surveys to determine consumer preferences and expectations	JCC, JMA, JEA	Years 1-6 Ongoing
5.2:- Innovative products of high quality	**5.2.1:-** Promote the adoption of quality management and production systems and standards	5.2.1.1 Expand the National Quality Awards, while simplifying the application process	MIIC	Years 1-3 Ongoing
		5.2.1.2 Work with Bureau of Standards (BSJ) to strengthen the use of the Standards mark	JMA, JEA, BSJ	Years 1-3 Ongoing
		5.2.1.3 Encourage manufacturers to adopt international product and process quality standards including Hazard Analysis and Critical Control Points (HACCP) and ISO 9000	JMA, JEA, JAPA, BSJ	Years 1-3 Ongoing
	5.2.2:- Develop the capacity for market driven innovation by local manufacturers	5.2.2.1 Promote use of management systems for the development and measurement of innovation	SRC, Universities, JMA	Years 1-6 Ongoing
	5.2.3:- Promote research and innovation for sector	5.2.3.1 Strengthen partnerships between public and private sector and academic and research institutions in relevant research and innovation for manufacturing sector	SRC, Universities, JMA	Years 1-6 Ongoing
		5.2.3.2 Develop capacity and opportunities for academic institutions to use knowledge and applied research to address industry problems and challenges	SRC, Universities, JMA	Years 1-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
		5.2.3.3 Develop relationships with alumni and industry experts through discussion fora, seminars and presentations on topics of mutual interest	SRC, Universities, JMA	Years 1-6 Ongoing
		5.2.3.4 Encourage private sector funding to establish industry research facilities at universities including through treating contributions as tax-deductible	PSOs, MOFPS, SRC, Universities	Years 1-9 Ongoing
		5.2.3.5 Develop and implement research programmes on specific requirements of the manufacturing sector	SRC, Universities, JMA	Years 1-3 Ongoing
		5.2.3.6 Establish and strengthen marketing of consultancy capabilities of universities to the manufacturing sector	SRC, Universities	Years 1-6 Ongoing
		5.2.3.7 Seek funding from international development partners (IDPs) and diaspora for manufacturing research programmes and projects	SRC, Universities, JMA	Years 1-6 Ongoing
	5.2.4:- Promote increased value added manufacturing production	5.2.4.1 Develop value-added products	SRC, BSJ	Years 1-6 Ongoing
		5.2.4.2 Pursue related marketing activities	SRC, BSJ	Years 1-6 Ongoing
5.3:- A sector which gives excellent distribution, delivery of shopping experience and customer service	**5.3.1.:-** Improve customer service within the sector	5.3.1.1 Strengthen after sales service and response to consumer concerns	JMA	Years 1-6 Ongoing
		5.3.1.2 Carry out consumer education programme	MIIC	Years 1-3 Ongoing
	5.3.2:- Strengthen relationships with wholesalers and retailers for domestic and export market	5.3.2.1 Augment export trading houses, coupled with marketing websites for Jamaican products (see 5.4.3)	JEA, JBDC, JTI	Years 1-6 Ongoing
		5.3.2.2 Utilise JBDC to take new product ideas to commercial viability	JBDC	Years 1-6 Ongoing
	5.3.3:- Expand collaboration in regional and international marketing	5.3.3.1 Provide relevant export development services to existing and potential exporters	MIIC, JTI	Years 1-6 Ongoing
	5.3.4:- Develop mechanisms to	5.3.4.1 Promote consolidation of shipments and distribution networks across companies for	JMA, JEA	Years 1-6 Ongoing

Outcomes	Strategies	Actions	Responsible Agencies and Stakeholders	Time-Frame
	manage effectively shipping and distribution costs	domestic and export markets		
5.4:- Brand Jamaica established for internationally known, accepted and sought-after Jamaican manufactured products	**5.4.1:-** Enforce intellectual property aspects of Brand Jamaica	5.4.1.1 Strengthen monitoring capacity of JIPO	JIPO, JTI, BSJ	Years 1-6 Ongoing
		5.4.1.2 Strengthen enforcement linkages with WIPO	JIPO, JMA	Years 1-6 Ongoing
	5.4.2:- Use creative aspects of Brand Jamaica in marketing Jamaican manufactured products	5.4.2.1 Promote Jamaica in targeted sectors and markets via e-Bay-type vending sites	MIIC, JIPO, JTI, BSJ, JMA, JEA, JAPA	Years 1-6 Ongoing

7. Appendices

7.1 Appendix 1 – List of Task Force Members

Mr. Simon Roberts (Chairperson)	Managing Director, Grace Food Processors Canning Limited
Mr. Omar Azan	Marketing Manager, Boss Furniture/ President, Jamaica Manufacturers' Association
Mr. Douglas Webster	Senior Director, Policy, Planning and Research, Ministry of Industry, Investment and Commerce
Dr. Audia Barnett	Executive Director, Scientific Research Council
Mr. Robert Kerr	Senior Consultant - Investment Promotion, Jamaica Trade and Invest (JTI)
Ms. Claudine Blackwood	Consultant - Export Development, JTI
Mrs. Imega Breese-McNab	Research and Marketing Officer, Jamaica Manufacturers' Association
Mr. Edward Chin-Mook	President, Small Business Association of Jamaica (SBAJ)
Ms. Megan Deane	Deputy Managing Director, National Export-Import Bank of Jamaica Limited
Dr. Charles Douglas	Executive Director, Jamaica Productivity Centre
Mr. Alain Fisher	Jamaica Employers' Federation
Mr. Claude Fletcher	Trade Administrator, Trade Board
Mr. Shervin Graham	Jamaica Pre-Mix Limited
Mr. Jeffery Hall	Director of JP Businesses, Jamaica Producers Group Ltd.
Mr. William Mahfood	Managing Director, WISYNCO Group
Mr. Warren McDonald	Regional Managing Director, Berger Paints (Ja.) Ltd.
Mr. Ryan Peralto Jr.	General Manager, B-H Paints (WI) Ltd.
Mrs. Beverley Rose-Forbes	Divisional Director, Ministry of Industry, Technology, Energy & Commerce
Mr. Milverton Smith	Managing Director, Turbolife Manufacturing Co. Ltd.
Mr. Oswald Smith	Past President, SBAJ
Mr. Trevor Smith	Jamaica Productivity Centre
Ms. Tamar Nelson	Jamaica Productivity Centre
Mr. Melvin Smith	Trade Administrator, Trade Board
Mr. Gladstone Rose	Bureau of Standards Jamaica (BSJ)
Mr. Stephen Farquharson	BSJ
Ms. Meredith Darby	Small Business Association, Jamaica (SBAJ)
Mr. Earl Delgado	Fun Snax Limited / SBAJ
Mr. Winston Wright	SBAJ
Ms. Kadine Richards	Marketing Manager, PCF Company Limited
Ms. Marcia Henry	Scientific Research Council

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

7.2 Appendix 2 – Listing of Task Force Meetings

- July 11, 2007
- July 18, 2007
- July 25, 2007
- August 8, 2007
- August 15, 2007
- August 29, 2007
- September 12, 2007
- September 19, 2007
- September 26, 2007
- October 10, 2007
- October 24, 2007
- January 16, 2008
- September 30, 2008
- October 7, 2008
- October 14, 2008
- October 21, 2008
- October 28, 2008
- November 4, 2008
- November 21, 2008
- January 20, 2009

7.4 Appendix 4 – List of Acronyms and Abbreviations

AAJ	Airports Authority of Jamaica
BOJ	Bank of Jamaica
BSJ	Bureau of Standards Jamaica
CAIC	Caribbean Association of Industry and Commerce
CARICOM	Caribbean Community
CBO	Community Based Organization
CCJ	Caribbean Court of Justice
CITO	Central Information Technology Office
CSME	Caribbean Single Market and Economy
DBJ	Development Bank of Jamaica
ESSJ	Economic and Social Survey Jamaica
EXIM	Export-Import Bank of Jamaica
FTC	Fair Trading Commission
GDP	Gross Domestic Product
GOJ	Government of Jamaica
HEART Trust/NTA	Human Employment and Resource Training/National Training Agency
HMA	Hardware Merchants Association

IDB	Inter-American Development Bank
IDP	International Development Partners
IOJ	Institute of Jamaica
JAMVAC	Jamaica Vacations
JAPA	Jamaica Agro Processors Association
JBA	Jamaica Bankers Association
JBDC	Jamaica Business Development Corporation
JCC	Jamaica Chamber of Commerce
JCF	Jamaica Constabulary Force
JCTU	Jamaica Confederation of Trade Unions
JEA	Jamaica Exporters' Association
JEF	Jamaica Employers' Federation
JIPO	Jamaica Intellectual Property Office
JHTA	Jamaica Hotel and Tourist Association
JMA	Jamaica Manufacturers Association Limited
JNHT	Jamaica National Heritage Trust
JPC	Jamaica Productivity Centre
JSE	Jamaica Stock Exchange
JTB	Jamaica Tourist Board
JTI	Jamaica Trade and Invest
KMA	Kingston Metropolitan Area
MDAs	Ministries, Departments and Agencies
MLSS	Ministry of Labour and Social Security
MFAFT	Ministry of Foreign Affairs and Foreign Trade
MMT	Ministry of Mining and Telecommunications
MOA	Ministry of Agriculture
MOE	Ministry of Education
ME	Ministry of Energy
MOFPS	Ministry of Finance and the Public Service
MICYS	Ministry of Information, Culture, Youth and Sports
MIIC	Ministry of Industry, Investment and Commerce
MOJ	Ministry of Justice
MNS	Ministry of National Security
MTW	Ministry of Transport and Works
MOU	Memorandum of Understanding
MSE	Micro and Small Enterprises
MSME	Micro, Small and Medium Enterprises
NCTVET	National Council on Technical and Vocational Education and Training
NEPA	National Environment and Planning Agency
NGO	Non Governmental Organizations
NSWMA	National Solid Waste Management Authority
NWA	National Works Agency
NWC	National Water Commission
ODPEM	Office of Disaster Preparedness and Emergency Management
OECD	Organization for Economic Co-operation and Development
OPM	Office of the Prime Minister
OUR	Office of Utilities Regulations

PAJ	Port Authority of Jamaica
PCJ	Petroleum Corporation of Jamaica
PDC	Parish Development Committee
PIOJ	Planning Institute of Jamaica
PSOJ	Private Sector Organization of Jamaica
PSOs	Private Sector Organizations
RADA	Rural Agricultural Development Authority
REER	Real Effective Exchange Rate
SBAJ	Small Business Association of Jamaica
SDC	Social Development Commission
SRC	Scientific Research Council
STATIN	Statistical Institute of Jamaica
TA	Transport Authority
TPDCO	Tourism Product Development Company
UNCTAD	United Nations Conference on Trade and Development
UTECH	University of Technology
UWI	University of the West Indies
WTO	World Trade Organization

7.5 Appendix 5 – References and Selected Bibliography

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