A CONCEPT PAPER FOR
THE PREPARATION OF STRATEGIC PLAN ON
MARITIME TRANSPORT SERVICES
FOR THE CARICOM SINGLE MARKET AND ECONOMY

INTRODUCTION

This paper seeks to examine the Caribbean shipping industry from three perspectives:

1. Efficiency and adequacy of the maritime transport service and infrastructure
2. Opportunities for employment for Caribbean nationals
3. State of environmental machinery to protect the Caribbean Sea Basin.

The new logistic concepts such as globalisation, Just-In-Time (JIT) and outsourcing have created the need for the establishment of complex international distribution chain. This ultimate goal is to allow shippers to place the right product on the manufacturing or retail floor anywhere in the world at the right time and the right price. As a result, global logistic service providers have emerged in the past three decades, and their priority objectives emphasise the paramount need of satisfying customer-driven demand. To achieve this objective, they frequently rely on partnership with industrial, distribution and transport entities. The global shipping industry, for example, is driven by forces of scale and technology. As such, the Caribbean, comprising a group of discontented islands sharing space, is challenged to find relevance within this paradigm. It is true that sustained globalisation and global logistics would not be possible without a dense and efficient transport network. It is equally true that both the concept and its enabling tools have had a tremendous impact on maritime transport. This global trend therefore begs the question "how does the Caribbean fit into this picture"? Given the poor performance of many container terminals in the Caribbean, it is not surprising that handling charges are two or three times as high as in similar ports in other regions of the world, and that the overall cost of transport and insurance in the Caribbean Basin is some 30% higher than the world average.

Globalisation rests on four foundation pillars namely: Specialization; trade liberalization; international transportation; and technological advances.

***Specialization* –** As global efficiency increases, the need for specialized businesses to service the growing demand in the maritime and logistics sector can no longer go unnoticed by policy

makers and educators. Today, ***shipping and by extension the logistics and supply chain industry, account for 35% of the value of global trade.***

Trade Liberalisation – The breakdown of trade barriers allowing nations and companies to trade freely across regions and continents is a new phenomenon with multiple impacts on trade.
The Caribbean Single Market (CSM) and soon-to-come Caribbean Single Market and Economy (CSME) articulates the region's response to amass a market size of six million people in an attempt to compete with six billion worldwide.

International Transportation – This has long been recognized as one of the main drivers of development in achieving economies of scale. It is less expensive, for example, to transport 4 x 40' containers from Shanghai, China, to Jamaica, than to transport 2 x 40' containers from Jamaica to Dominica, which is more than four (4) times nearer than from China to Jamaica equally, the average ship between Jamaica and China is 4 times larger than the vessels within Jamaica and the Eastern Caribbean. The same scenario holds for all Caribbean islands.

Technological Advances – The twenty first century globalization movement differentiates itself from similar earlier movement by the present-day technological advances. Technological advances, and in particular the Internet and communications improvement, have shaped the world into a global village. Information and the speed at which we can move same have become a major competitive advantage. The contact between persons all over the world has been reduced to a mere "dot-com", thus presenting opportunities on which the Caribbean can capitalize.

ANALYSIS AND RANKING OF CARIBBEAN PORT PRODUCTIVITY

A major productivity challenge facing the Caribbean is lack of standards for labour practices and operational efficiency factors. For example, most ports in the region are labour intensive and operate on the basis of archaic restrictive labour practices. This has led to intra-island competition and global pressure, which is now dictating changes as the Caribbean is being transformed from being ancient, exclusive and private to becoming just another node on the global logistics chain.

Table 1: Competing Regional Hub Ports

Port	Country	2007 TEU *	World Ranking
Kingston Container Terminal	Jamaica	2,016,792	53
Freeport	Bahamas	1,634,000	71
Port of Spain	Trinidad	358,541	184
Point Lisas	Trinidad	156,016	268
Rio Haina	Dominican Republic	248,695	220
Caucedo	Dominican Republic	574,441	139
Colon	Panama	774,234	115
Manzanillo	Panama	1,279,894	79
Cristobal	Panama	165,854	260
Catagena	Columbia	795,382	112

Source: Containerisation International, 2009

* TEU – 20 foot Equivalent Unit

The Caribbean ports can be conveniently divided into three categories based on global and regional supply chain positions:

The first category is that of global hub ports (see Table 1) for which Kingston Container Terminal and Freeport, Bahamas are the only two ranked Caribbean ports in this category. Kingston Container Terminal and Free Port Bahamas ranked 53 and 71 respectively in the top 100 global ports in 2007 by Containerisation International. Regionally, these two countries are ranked numbers one and three among Caribbean and Central American ports competing for global hub port status.

The second category refers to sub-regional hub ports, which are responsible for inter-Caribbean trade. This category consists of Kingston Wharves Limited, Jamaica; Point Lisas and Port of Spain, Trinidad.

The third category is service ports, which accounts for all other Caribbean countries not listed in the two categories above. For a complete classification of Caribbean ports, see Table 2 below.

Table 2: Classification of Caribbean Ports

Ports	**Global Hub**	**Sub – Regional Hub**	**Service**
Port of Spain, Trinidad		*	
Point Lisas, Trinidad		*	
Bridgetown, Barbados			*
Kingston Wharves, Jamaica		*	
Kingston Container Terminal, Jamaica	*		
Caucedo, Dom. Republic	*		
Rio Haina, Dom. Republic			*
Puerto Plata, Dom. Republic			*
La-Roman, Dom. Republic			*
Freeport, Bahamas	*		
George Town, Guyana			*
St. Johns, Antigua			*
Castries, St. Lucia			*
Vieux Fort, St. Lucia			*
Georgetown, Guyana			*
Havana, Cuba			*
Boca-Chica, Dom. Rep			*
Willemstad, Netherlands Antilles			*
Pointe-A-Pitra, Guadeloupe			*

Table3: Top Caribbean Container Terminals and their Throughput (TEU) 2004 to 2007

Port	2004	2005	2006	2007	World ranking
Kingston	1,137,798	1,356,034	2,150,408	2,016,792	53
Freeport	1,057,879	1,184,800	1,463,000	1,634,000	71
Port of Spain	342,000	379,068	324,939	358,541	184
Williemstad	81,212	85,500	90,759	97,271	306
Bridgetown	67,491	82,059	98,511	99,626	304
Oranjestad	52,839	51,310	N/A	N/A	N/A
Georgetown	41,885	46,000	N/A	N/A	N/A
Roseau	7,306	8,100	N/A	N/A	N/A
Castries	6,485	6,800	32,112	36,117	388

Source: Containerisation International, 2009

Table 3 represents the ranking of major Caribbean ports and their throughput between 2004 and 2007. This shows the challenges the Caribbean has as a region to achieve economies of scale based on the relatively low cargo throughput. This limits the potential of Caribbean ports to

modernise and embrace technological advancement due to the relatively high cost to do so on an individual island basis.

Table 4: A Comparison of Caribbean Hub Port Facilities with Singapore

Port	Singapore	Kingston	Free Port	Rio-Haina	Cristobal	Port of Spain	Colon	Manzanillo	Caucedo	Cartagena
Total area Hectares	339	223	49	25	143	165	62	54		103
Equipment										
Quay Cranes	125	13	7	3	2	2	5	10	4	2
Yard Cranes	338	2	2		4	16		52		27
Straddle Carriers		75	50							
Berth-Main	24	4	3	2	2	4	2	2		7
Berths-Feeder	17	9		2		2				
Ground Slots	66,454	16,000			3,300					9,300
Reefer Plugs	3,544	694	300		40			500		
TEU (000')	27,900	2,017	1,634	248	165	359	774	1,280	574	795
Maximum Drafts (M)	14.6-16	14	15.5	9	14	12	14	13		8.9-12

Source: Containerisation International, 2009

Table 4 above compares the world number one container port, Singapore, which by size is smaller than many Caribbean countries. In fact, when compared to Jamaica, it could fit 15.4 times and has twice the population of Jamaica. When, comparing size and equipment utilisation, the port of Singapore, which operates with approximately one third more land space than Kingston Container terminal (339 compared to 223 hectares respectively) achieves over 14 times the throughput volume (27.9million TEUs for Singapore compared to 2.01million TEUs for Kingston, Jamaica). A close analysis of the above points to the poor choice of container handling equipment for both Kingston Container Terminal and Freeport Bahamas, the Caribbean's only global hub ports. These ports employ the use of straddle carriers (high maintenance, and expensive lifting equipment), which require large land areas for container storage as containers have to be positioned in single rows, which cannot be stacked more than 4 containers high. At 4 containers height, less than 20% of straddle carriers in these ports can handle these heights as the standard is two containers high. Singapore on the other hand maximizes the use of its limited land surface areas by not utilizing straddle carriers for its main operations, but alternatively using Rubber Tyre Gantry cranes (RTG), which allow containers to be stacked against each other up to 10 rows on a height of 9 containers high. An RTG is approximately three time the price of a straddle carrier with 7 times efficiency.

LINER SHIPPING CONECTIVITY INDEX (LSCI) IN THE CARIBBEAN

Access to world markets depends, to a large extent, on the availability of regular and efficient marine transport connections, especially liner shipping services. UNCTAD's LSCI aims at capturing a country's level of integration into the existing liner shipping network by measuring liner shipping connectivity. The LSCI was introduced in 2005, as an indicator of liner shipping connectivity for 162 countries. In 2008 Tuvalu, a South Pacific Island, was added to the countries making it 163 countries. The index is calculated based on five components:

1. Number of ships
2. The container carrying capacity in twenty-foot equivalent units (TEUs)
3. The number of shipping companies
4. The number of shipping services
5. The maximum ship size, always referring to the ships that are deployed to provide liner shipping services to a country's port.

See Table 5 below:

Table 5: Liner Shipping Connectivity Index in the Caribbean

Current Rank		2008		2007		2006		2005		2004		Change
	Country	LSCI	RK	LSCI	RK	LSCI	RH	LSCI	RK	LSCI	RK	
48	Dom. Rep.	20.09	48	19.87	48	15.19	53	13.95	54	12.45	59	7.64
52	Jamaica	18.23	52	25.50	38	23.02	37	21.99	36	21.32	33	-3.09
60	Bahamas	26.35	60	16.45	58	16.19	51	15.70	46	17.49	42	-1.14
68	T & T	12.88	68	13.72	68	11.18	68	10.61	71	13.18	53	-0.3
91	Netherland Antilles	8.56	91	9.23	81	7.82	92	8.23	89	8.16	89	0.4
105	St. Kitts & Nevis	6.19	105	6.16	109	5.59	106	5.32	114	5.49	108	0.7
107	Cuba	6.12	107	6.71	102	6.43	100	6.51	101	6.78	97	-0.66
113	Barbados	5.36	113	5.79	112	5.34	108	5.77	111	5.47	109	-0.11
117	Aruba	5.09	117	5.09	118	7.53	93	7.52	93	7.37	91	-2.28
122	St. Vincent & Grenadines	4.52	122	4.34	126	3.40	135	3.58	135	3.56	134	0.96
124	Guyana	4.36	124	4.26	129	4.60	120	4.37	125	4.54	124	-0.18
126	Suriname	4.26	126	4.29	128	3.90	130	4.16	129	4.77	121	-0.51
127	St. Lucia	4.25	127	4.21	130	3.43	134	3.72	133	3.70	132	0.55
130	Grenada	4.20	130	4.09	132	3.37	136	2.52	147	2.30	149	1.90
136	Antigua & Barbuda	3.82	136	3.76	134	2.43	150	2.56	146	2.33	146	1.49
144	Haiti	3.44	144	2.87	149	2.91	145	3.43	137	4.91	118	-1.47
155	Belize	2.32	155	2.61	152	2.62	148	2.59	145	2.19	150	0.13
156	Dominica	2.31	156	2.40	155	2.33	152	2.51	148	2.33	146	-0.02
160	Cayman Islands	1.78	160	1.78	158	1.79	158	2.23	152	1.90	153	0.12

Source: UNCTAD, 2008

Between 2004 and 2008, the Dominican Republic improved its connectivity level by 61.3% which increased its ranking from 59 in 2004 to 48 in 2008. This has been the most significant

improvement in the Caribbean, and was due largely through the opening of the Caucedo port thereby attracting global carriers such as MSC shipping line, Hapag Lloyd, among others. On the other hand, Jamaica had the largest decline of 14.5% moving from the Caribbean's number one ranking and global ranking of number 33 in 2004, to the Caribbean's number two position and global ranking of 52 in 2008. Similarly, Bahamas which was globally ranked number 42 in 2004 declined by 6.5% to Caribbean and global rank of number 3 and 60 respectively in 2008. The global transshipment hub ports in the Caribbean have the highest level of connectivity to the global supply chain, followed by the sub-regional hubs and then the service ports. The three least connected ports in 2008 were Belize, Dominica and the Cayman Islands, which were ranked at 155, 156 and 160 respectively.

In 2008 China remained at the top of the league while Jamaica fell from 37 to 52 in global ranking giving way to Dominican Republic as the Caribbean and global number one and number 48 respectively.

HUMAN RESOURCE OPPORTUNITIES

Seafarers provide a vital service to an industry that contributes significantly to global and sustainable development and prosperity by carrying the world's commerce safely, securely, efficiently and at a fraction of the cost of other modes of transport. Indeed, shipping carries more than 90% of world trade – and, given that the bulk of this trade consists of carrying commodities such as grain and oil, suggests that without shipping, half the world would starve and the other half would freeze. This job is done by close to 100,000 merchant ships, manned by over 1¼ million seafarers from all over the world. Against an estimated total world population of 6.7 billion, these figures draw a stunning conclusion: that the feeding and heating needs of the entire world are dependent on just over 1 million seafarers. Drawing from Winston Churchill's words, one could say that "never before in the history of mankind have so many depended so much on so few"!

Seafarers are professional sea operatives, trained and equipped in the art and technology required in the best practice operation on international waters. It is a career that has contributed to employment creation and a veritable source of revenue to some countries, for example, the

Philippines, the world's largest seafaring nation provides 245,000 seafarers or 22% of the world seafarer population. The Philippines has directly created policy for the training and development of seafarers, which was not by accident but as a solution to addressing the high unemployment situation. On the other hand, Nigeria with a population of 200 million people has ignored the opportunity offered by seafaring profession. Experts have argued that Nigeria could take advantage of the supply of seafarers needed to service its domestic labour demand, which is valued at US$1.5 billion wage loss to other foreign nationals.

Today the shipping industry itself is both at the heart of the problem and holds most of the cards in reaching a solution to the shortage of seafarers. In short, a career at sea has to be more attractive a proposition for youngsters than the available alternatives ashore. The industry has, therefore, to do much more to improve the way it is perceived and the sociological (work/life balance) and financial factors, which explain the limited attraction to a seafaring career.

Over the years, the pressure on the Caribbean has not just been on the physical infrastructure but on finding and retaining qualified human resources. Unfortunately, the Caribbean has not kept pace with advancement in information technology, while at the same time; there has been a wide disparity between countries and ports of the region in terms of productivity.

"As everyone in shipping is aware, the global shortage of seafarers, especially officers, has already reached significant proportions and is now a source of genuine concern to all involved in the industry" (IMO Secretary-General Efthimios E. Mitropoulos, 2008).

A SWOT ANALYSIS ON CARIBBEAN MARITIME TRANSPORTATION INDUSTRY

A SWOT is a strategic planning tool to be employed in evaluating the Strengths, Weaknesses, Opportunities, and Threats that are involved in maritime transportation sector in the Caribbean. The SWOT will specify the objective of the maritime transportation sector and identify the internal and external factors that are favourable and unfavourable to achieving the stated objective.

STRENGTHS

- Proximity of the Caribbean to major North and South American markets.

- The Caribbean region has a relatively high tourist appeal that could be leveraged for attracting higher transshipment volumes.

WEAKNESSES

- Small markets, total Caribbean market of 6 million competing with world 6.7 billion of which China is 1.3 billion, India 1.1 billion, USA 300 million, European Union 450 million.
- Caribbean economies are primarily dependent on tourism, which is a consumption based industry and which relies heavily on imports with very little export.
- High port costs due to low productivity requiring ships to stay longer at port
- High level of unskilled labour and large labour force, which are not easily adaptable to change.
- High restrictive labour practices with very strong labour movement making the Caribbean labour force uncompetitive in relation to other global ports.
- Limited berthing facilities during the winter month October to March, cargo ships have to wait until cruise vessels sail to discharge and load cargo as cruise vessels have priority berthing arrangement throughout the entire Caribbean region. This means cargo operations take place during overtime period. Cruise vessels usually sail between 4 and 6 pm each day and arrive between 8 and 9 am each day for most Caribbean islands. For vessel discharging and loading cargos during these peak periods usually incur high costs in moving vessel off the port to give way to priority access by cruise vessels. Cargo vessels pay higher cost to reposition the ship to the port after the departure of the cruise vessels.
- High security costs as a result of the implementation and maintenance of the IMO ISPS Code.
- Limited and isolated supporting services to the international maritime industry – for example, refueling, dry dock facilities and vessel chandler services.

THREATS

- Changing in global traffic patterns and imbalance in the East-West trade route. For every five containers coming from the east to the Caribbean full, only one has the potential to return with export cargo. The other four return empty. These empty containers add to the high freight cost of getting goods in and out of the Caribbean as import cargo bears the return of empty containers.
- Poor connectivity to global supply chain making the region very expensive as limited and infrequent access to shipping services, which forces companies in Caribbean islands to hold high inventory levels.
- The Caribbean port infrastructure is on average, built to accommodate older general cargo ships that require space to store cargo, discharge and load, and manpower to service same. The advent of containerisation in the 1960s changed vessel construction and port efficiency for which most Caribbean countries did not upgrade or respond. This resulted in ships operating in the region being more advanced than the shore-side technological and operational support.
- The underlying role of customs in the Caribbean, as an extension of the ministry of finance in each territory, as the average of 30% of GDP is financed through the collection of customs and excise taxes. To the contrary, in G7 countries, less than 4% of GDP comes from customs and excise taxes, clearly defining the role of customs as one to facilitate trade and not to collect revenues as in the case of the Caribbean.
- The Caribbean lacks legal and environmental machinery to adequately protect the region from abuse by the international shipping industry.

OPPORTUNITIES

- Caribbean large labour force could be trained for the higher level to serve international ships as officers. This could be done through repositioning the Caribbean Maritime Institute (CMI) as a regional vehicle serving the Caribbean for the development of its human capital. This would afford the Caribbean to take advantage of the global shortage of the projected 83,000 officers by the IMO.

- Opportunity exists to create regional logistics hubs to improve connectivity access to global supply chain, create value added export that could reduce the imbalance between import and export gap that now exists.
- Opportunity to integrate both air and sea transportation through the development of transport infrastructure. This would provide options for higher value cargo to use the region for transshipment purposes. For example, cargo could arrive by sea and be subdivided and then re-exported by air.
- To upgrade major ports in Caribbean for which they could share and integrate technological cost through the establishment of a common port community system. This is a platform through which information can be exchanged and processed, and provide a link to the global supply chain.

STRATEGIES AND POLICIES

The success of a sustainable maritime transportation development strategy depends on development policies, which balance the growth of an environmental, social, economic and maritime transportation sector with demand from compatible growth markets. It is also dependent on the abilities and resources of the organizations (government and non-government) and other stakeholders who own the strategy to implement its recommendations. This latter component strongly influences the scope of the strategy and introduces reality and further prioritisation as to whether the strategy can be implemented and the individual targets attained. The process begins by understanding the principles or guidelines for sustainable maritime transportation.

There are three main keys to success in producing sustainable maritime transportation strategies. Firstly, it is important that the person or team formulating the strategy is skilled not only in maritime transportation development but also in economic, ecological and social analysis. Secondly, wide consultations amongst all interest groups are essential. These consultations will include government, trade and business, and maritime transport administrators. Thirdly, openness has a very special role to play. This suggests that the innovative approach to management, the technical and administrative skills needed to manage maritime transportation resources do not solely reside in state agencies but are also dispersed throughout various sectors

of society, which can be drawn into new types of local and regional management partnerships to include CARICOM.

CONCLUSION

On the basis of this strong foundation we should not miss a single opportunity to raise the profile of shipping as a vibrant and essential industry, which, in keeping with its corporate social responsibilities, provides rewarding, stimulating and long-term career prospects. In so doing, we should focus not only on ensuring that politicians and the general public are better informed of shipping's great value to the international community, but also in promoting, among the children and young people in schools and universities in all Caribbean islands, a career at sea and emphasizing the variety of opportunities it offers in the short-, medium- and long-term. In this context, it is of utmost importance for all stakeholders – i.e. industry and Governments to join forces and address the problem collectively.

RECOMMENDATIONS

A supply of competent seafarers requires a commensurate provision of training establishments. The responsibility for establishing and maintaining the standards of maritime training facilities lies chiefly with Governments – and in many cases Governments also directly provide those facilities.

Regional Government with direct maritime responsibilities can draw attention to the economic benefits to be gained by labour-supply and efficient shipping services; and draws attention to the role of competent seafarers in protecting the marine and coastal environments. Greater efforts should also be made to draw attention to the negative effects of some policies.

The Caribbean Sea is a homogenous area shared by all islands. The islands collectively need to legislate the shipping industry if it is to achieve environmental sustainability. This applies especially to the cruise lines for which the Caribbean receives approximately half global deployment. Harmonisation of the legal framework for regulation of the shipping industry is therefore necessary. This involves the following:

a. Ratification /accession to all the major international treaties governing safety, security and pollution prevention by all states.
b. With the assistance of the office of the IMO Regional Maritime Advisor ensure that legislation which is promulgated is harmonised. This will prevent especially cruise lines from playing one Caribbean island against another having regard to the stringency of their laws.
c. Harmonise the level of the sanctions (penalties) in the legislation.
d. Establish a regional policy on the management of ship-generated waste and establish adequate reception facility for such waste.
e. Have matters relating to the regulation of cruise shipping as a standard agenda item in CARICOM and implement the regional transport policy in so far as cruise shipping is concerned.
f. Carry out, on a regional basis, the training of enforcement agencies, prosecutors and the judiciary on matters relating to cruise shipping.
g. Carry out gap analysis on the equipment and other needs for testing and sampling and determine whether the cost for the acquisition and operation of such equipment facilities can be shared regionally.

Caribbean ports need to assess the long term efficiency and productivity of cargo handling equipment, especially in light of port expansion required and high cost of land reclamation from the sea. The fact that six out of ten containers passing through Caribbean global hub ports are empty, and are low to non-revenue earning. This evaluation is important for long term sustainability.

Training and certification of Caribbean port workers as human resource are often treated on the wrong side of the balance sheet as they are often categorised as liabilities rather than assets.