

GLOBAL DEVELOPMENT STUDIES

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Volume Seven

Winter-Spring 2012-2013

Nos. 1-2.

GROWING THE MARITIME SECTOR IN TRINIDAD AND TOBAGO: KEY CONSIDERA- TIONS IN THE CREATION OF DYNAMIC SHIP REPAIR AND YACHTING INDUSTRY VALUE CHAINS

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ABSTRACT

The maritime sector has been identified as one of seven sectors with growth potential and is an important component of the government of Trinidad and Tobago's economic diversification strategy. Currently, the key activities of this industry are confined mainly to ship repair, dry-docking and storage, and yachting, which have spawned a range of related and supporting industries. While these clusters generate moderate employment and foreign exchange annually, more activities should be created up their respective value chains in order for them to grow. Globally, the maritime industry is a dynamic and lucrative one involving a range of activities requiring specialized and skilled expertise, cost effective port management systems, efficient turn-around time for handling of cargo, modern infrastructure and telecommunications capabilities, and industry certification, standards and accreditation. This article argues that the maritime sector has the potential to be a significant contributor to employment and exports. On the supply side, several areas of comparative advantage can be transformed into competitive advantages while developments within the country and the broader CARICOM region may provide the demand-pull to grow these segments. Growing and transforming these segments into dynamic activities along the industry's value chain will involve a mix of factors including targeted government policies, skilled human capital, industry standards and the investment, and entrepreneurial propensity of private enterprise.

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1. Introduction

Trinidad and Tobago's economy has been dominated by the hydrocarbon sector. Oil and gas "monetization" has resulted in the development of a robust energy sector along with related downstream industries, which has accounted for the majority of foreign exchange earnings and government revenues in the last three decades. Hydrocarbon exports, for example, contributed 62 percent of government revenues and 91 percent of foreign exchange earnings in 2006 (Discover TT.com).

However, increasing competition from new energy sources, maturing fields which have contributed to reduced output, and reduced demand from the country's major export market — the United States — has prompted a renewed effort at economic diversification. The government has identified the maritime industry as one of seven sectors with growth and competitiveness potential,¹ and it is anticipated that the sector can contribute to increased employment and exports and place the country on a more sustainable development path. The government estimates that growth of the maritime sector has increased by approximately 5 percent in recent years and projects that this trend will continue for another ten to fifteen years (Ministry of Trade and Industry, Seven Sectors Earmarked for Development 2012, p. 3).

The country's northwestern peninsula, namely the Chaguaramas coast, has been identified as the location for expanding the existing maritime cluster which currently includes shipbuilding, ship repair, leisure marine, yachting, and related maritime services. It is anticipated that the expansion of activities and development of an internationally competitive marine cluster in Chaguaramas will provide a framework to

be replicated in the other major ports in Trinidad and Tobago and so increase the sector's overall contribution to gross domestic product (GDP).

This article argues that within the marine sector, ship repair, dry-docking, and yachting have the potential to be significant contributors to employment generation and exports. Ship repair and dry-docking are well-established industries while yachting services are gaining momentum. Favorable supply side conditions such as geographic location and climate, firm and industry-level capacity-building and development of core competencies over time, and competitive factor prices and exchange rate conditions already provide the framework for transforming existing comparative advantage into dynamic competitive advantages. On the demand side, buoyancy in the local non-energy sector and constrained but steady performance of the energy sector can generate increased demand for specific marine services. Growing these segments to service a larger local and regional base and transforming them into dynamic activities along the industry's value chain will involve a combination of factors including targeted government policies, skilled human capital, industry standards and investment, and the entrepreneurial propensity of private enterprise.

The remainder of the article is organized as follows: section two provides an overview of the local maritime industry in the context of the country's economic diversification thrust. It identifies major supply side factors and how these factors have affected the industry's performance. Section three provides a profile of the Chaguaramas marine cluster and examines the performance of the major segments — ship repair, drydocking and yachting from a global and regional value chain (GVC) perspective. Section four identifies some of the demand factors driving these segments and assesses the extent to which they can facilitate an expansion of these industries and movement up their value chains. Based on the analysis presented in the foregoing sections, section five provides some recommendations for expanding these industries.

2. Economic Diversification and the Marine Sector

Trinidad and Tobago's hydrocarbon sector has dominated its economy since 1913. The country has exported crude oil for over 100 years, and since 1998 started to export Liquefied Natural Gas (LNG). The

country also has a large petrochemical industry which manufactures and exports various downstream products such as ammonia, urea and methanol. Today the country has a first world energy cluster that is the driving force of the overall economy. The oil and gas sectors accounted for 45 percent of GDP and 82.3 percent of exports in 2011, and accounted for 57.5 percent of government revenues (Central Bank of Trinidad and Tobago, 2011 Annual Economic Survey) and 90 percent of foreign investment (Ministry of Trade and Industry website). Moreover, Trinidad and Tobago is the world's largest supplier of ammonia and methanol, and the largest supplier of LNG to the United States.

Yet, the oil and gas sectors employ only five percent of the population (Central Bank of Trinidad and Tobago, 2011 Annual Economic Survey). Furthermore, the heavy dependence on oil and gas makes the economy highly vulnerable to external shocks given the extreme volatility of commodity prices on the international market. In addition, these hydrocarbon resources are finite and there have been recent declines in production levels with further declines forecasted. This has reinforced the position that economic diversification is imperative for long-term sustainable growth and development.

The government of Trinidad and Tobago's Medium Term Policy Framework 2011-2014 (Ministry of Planning website) articulates the importance of a diversified economy that is knowledge-based, innovation driven, and globally competitive. It outlines clearly the importance of a diversified economy by using oil and gas revenues to diversify into the non-energy sector by stimulating new growth clusters and moving up the value chain in existing clusters in an effort to increase competitiveness and productivity.

In the Draft Trade Policy 2010-2014 (Ministry of Trade and Industry, 2009) the government identified seven key sectors for economic diversification: Yachting, Fish and Fish Processing, Merchant Marine, Music and Entertainment, Film, Printing and Packaging, and Food and Beverages. The country already has a traditional base and established linkages in these sectors.

The Marine sector is an important one for Trinidad and Tobago's economic diversification efforts. It initially emerged as an outcome of the country's well-developed energy sector, which required a strong marine support for offshore oil and gas exploration and the transport of

goods and services between onshore and offshore activities. The growth of the sector has also been fostered by the rapid expansion in trade and trans-shipment activity as the country built three non-energy cargo ports. The country has been engaged in the commercial repair of small vessels such as Tugs, Barges and Offshore Supply Vessels for over 100 years (De Gannes and Persad, 2010). The country also has several comparative and competitive advantages in the maritime sector which are discussed in the following sections.

3. The Chaguaramas Marine Cluster

Located in the northwestern peninsula of Trinidad, Chaguaramas has developed a small and differentiated marine cluster comprised mainly of ship repair and drydocking facilities, marinas, pleasure boat services, and a range of related and supporting services.

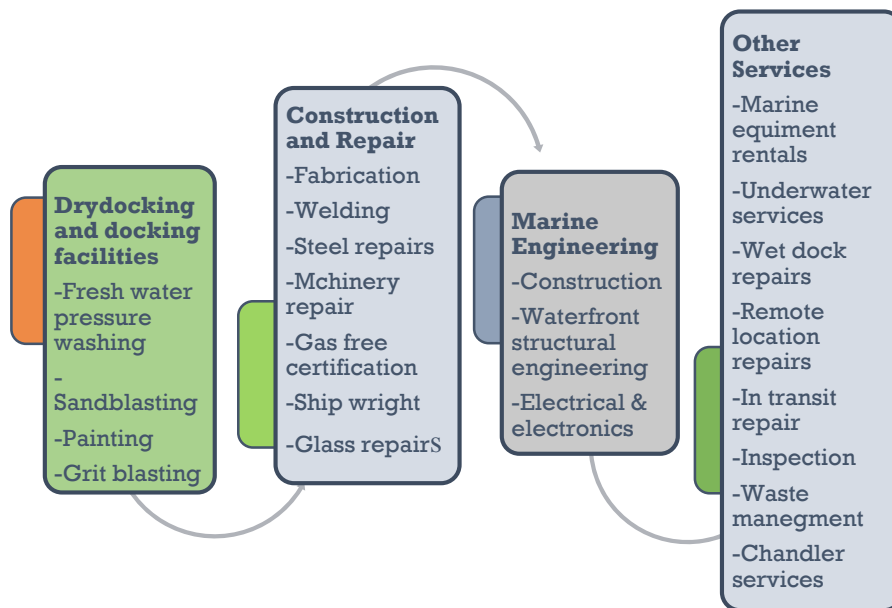
3. 1. The Chaguaramas Ship Repair and Drydocking Industry

Trinidad and Tobago has long been engaged in the commercial repair of vessels particularly in the Chaguaramas area. The Chaguaramas ship repair cluster is primarily private sector driven. This highly profitable cluster serves local, regional, and international clients. The cluster is driven by four major ship repair and dry-docking facilities: CL Marine (formerly CariDock recently taken over by the government), InterIsle Construction and Fabricating, Crews In, and Peaks Marine. These four companies, however, rely on many small providers of highly specialized technical services related to all aspects of ship repair; some of these providers are located within the geographic cluster while others are dispersed across the island (Figure 1). These companies provide a wide variety of services for a range of vessels including oil, chemical and gas tankers, bulk carriers, containerships, ferries, tugs, barges and specialized vessels such as cruise ships, navy and offshore support vessels, rigs, and LNG Carriers.

Furthermore, the country is located along key trade routes between North and South America and the Atlantic entrance of the Panama Canal. Other key drivers of growth and competitiveness have been strict adherence to international health and safety standards, international industry standards and certification, such as ISO 9001-2000, class

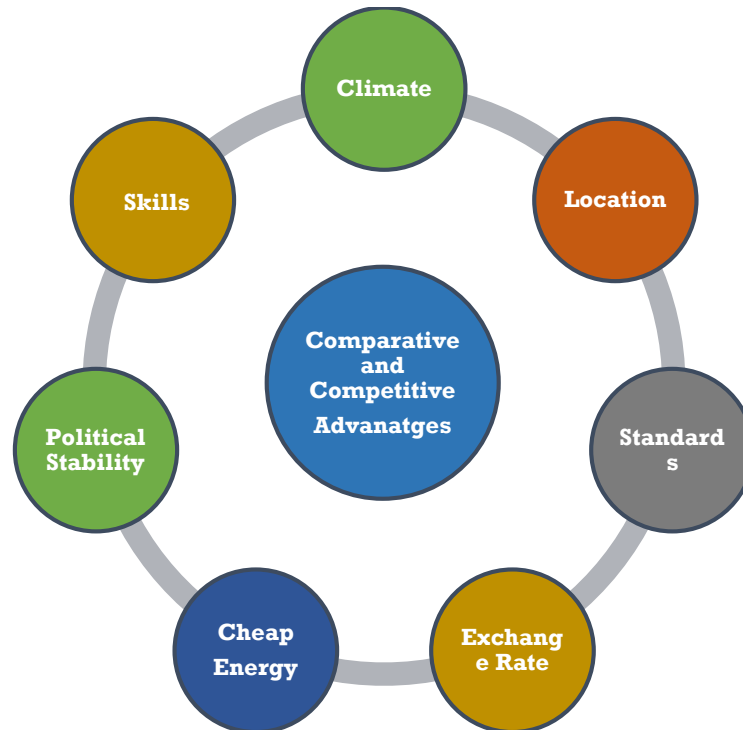
certification (Lloyds, DNV, BV, ABS, GL), and ISPS (International Ship and Port Facility Security) accreditation. The country also has a pool, although small, of highly skilled and experienced professionals. The country's favorable exchange rate against most international currencies and comparatively low cost energy has also helped in the cluster's international competitiveness position along with its stable political environment and open market policies. Figure 2 summarizes these comparative and competitive advantages.

Figure 1: Overview of Ship Repair and Dry-docking Services



Source: Authors' Compilation

Figure 2: Comparative and Competitive Advantages in the Ship Repair and Dry-Docking Industries



Source: Authors' Compilation.

3. 2. The Global and Regional Ship Repair and Dry-docking Industry

In analyzing the international ship repair and dry-docking industry, it should be emphasized that traditionally ship repair and shipbuilding are generally carried out in the same yards. Only recently have yards been especially dedicated to each activity. It is therefore no surprise that major ship builders are often the lead players in the ship repair industry. Nonetheless, ship repair and dry-docking are separate activities from shipbuilding. Shipbuilding is the design and construction of new vessels and often takes more than a year to complete. In contrast, ship repair activities occur in a much shorter time frame of usually 10-12 days, while the length of dry-docking depends on the needs of the customer and is a service type industry providing services to assure

adherence to strict international safety standards and general repair and replacement of parts, break downs, conversion, and maintenance.

In the past Europe dominated the shipbuilding and repair industry. However, Asian countries, namely China, India, Japan, Dubai, Bahrain, Sri Lanka, Singapore, South Korea, the Philippines, and Vietnam, because of their location along trade routes that are more favorable and much lower cost for highly skilled labor, have now developed a competitive advantage over Europe (Table 1).

Table 1: Top Ten Countries Ranked by Number of Ship Yards

Rank	Countries with the Top Number of Orders	Number of Shipyards
1	China	133
2	South Korea	19
3	Japan	45
4	Brazil	19
5	Philippines	4
6	India	10
7	Germany	7
8	Taiwan	3
9	Vietnam	16
10	Norway	18

Source: *World Shipyard Monitor Database, July 2012.*

Only South Korea, Japan and China, however, have yards dedicated for ship repair (CESA, 2009). Singapore has been identified as the leading ship repair center and controls approximately 20 percent of the global market, followed by Dubai, Bahrain, and Sri Lanka (CESA, 2009). Europeans, however, still control approximately 35 percent of the industry (CESA, 2009). This figure is expected to fall given the shift to lower cost countries and the high labor intensity of the industry.

In terms of regional competition, there are 13 dry docks competing with Trinidad and Tobago that can house vessels larger than 300-meter-long (Trinidad & Tobago Shipbuilder & Repair News, 2008). Table 2 lists these docks and their locations. Additionally, there are many

smaller shipyards which can accommodate marine vessels smaller than 300-meter-long located in Curacao, Columbia, and Panama.

Table 2: Regional Competitors

Location	Number of Yards
Panama	1
Rio de Janeiro, Brazil	1
Brooklyn, New York, USA	2
Norfolk, Virginia, USA	1
Newport Mews, Virginia, USA	2
Philadelphia, PA, USA	2
Roslindale, Maryland, USA	1
Bayonne, NJ, USA	1
Boston Massachusetts, USA	1
Freeport, Grand Bahama, Bahamas	1

Source: *Trinidad & Tobago Shipbuilder & Repair News, 2008*

3. 3. The Chaguaramas Yachting Industry

The yachting industry², as a thriving activity, is a relatively new one in Chaguaramas. Prior to 1991, yachting was limited to a small domestic segment and a few foreign yachts which visited mainly around the country's Carnival period (Ministry of Trade and Industry, Draft Yachting Policy, p. 1). Between 1990 and 2000, yachting activities intensified with foreign yacht arrivals increasing five-fold from just over 500 in 1990 to approximately 3000 in 2000 (Alkins-Koo, 2005). Increased investments in storage and haul out services and the growth of support services, mainly by the private sector, have facilitated this expansion.

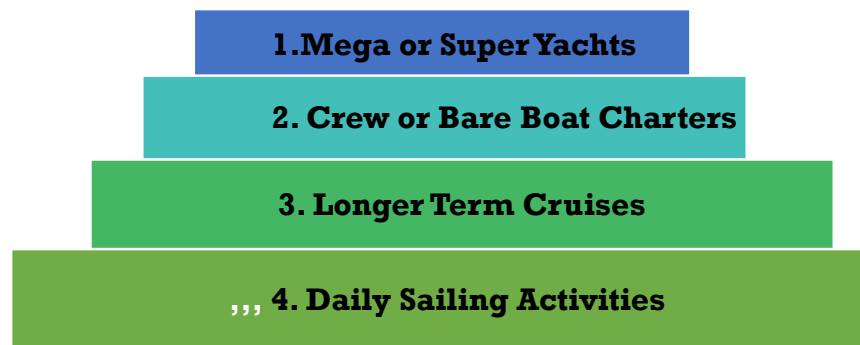
Over the last decade, however, there has been a marked decline in foreign yacht arrivals to Trinidad. In 2010, 1080 yachts visited the country, a reduction of 21.7 percent over the 2009 figure of 1379 (Review of the Economy 2011, p. 22). The reduction has affected related and supporting industries such as ship repair yards, dry-docks, marinas, and a number of supply services, and the industry's overall contribution to employment and the GDP. This decline has been attributed to

several factors including the global economic crisis in 2008 and the subsequent economic instability in the European Union which depressed demand for travel. Increased competition from other destinations including Australia, New Zealand, and the Mediterranean also affected the Eastern Caribbean with most countries recording declines in excess of 10 percent in the first 11 months of 2012 (Caribbean Development Bank Annual Report 2012, p. 11). Given the significance of the yachting industry to Trinidad and Tobago's current economic diversification thrust and the impact of external developments on the buoyancy of this market, removing supply side bottlenecks should be a key consideration in developing competitive strategies for attracting regional and foreign yachts to the country.

3. 4. Characteristics of the Local Yachting Industry

The major economic activity of the yachting industry in Trinidad and Tobago involves leisure/tourism from which spin off activities such as hurricane mooring/storage, ship repairs, and related services including retail and brokerage services, entertainment, legal, health and transportation services are derived. Yachting activities in Trinidad and Tobago can be grouped into four categories: mega or super yachts; crew and bare boat charters; cruise vessels, and day sailings, which are represented in Figure 3.

Figure 3: Yachting Activities in Trinidad and Tobago-Major Categories

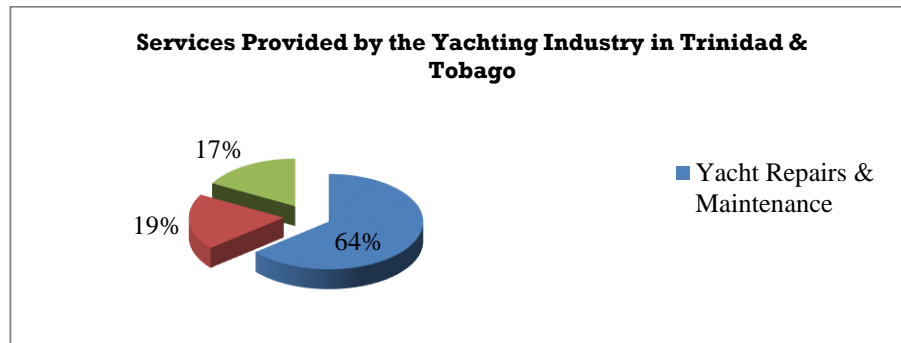


Source: Authors' Compilation from Ministry of Trade and Industry's Draft Yachting Policy

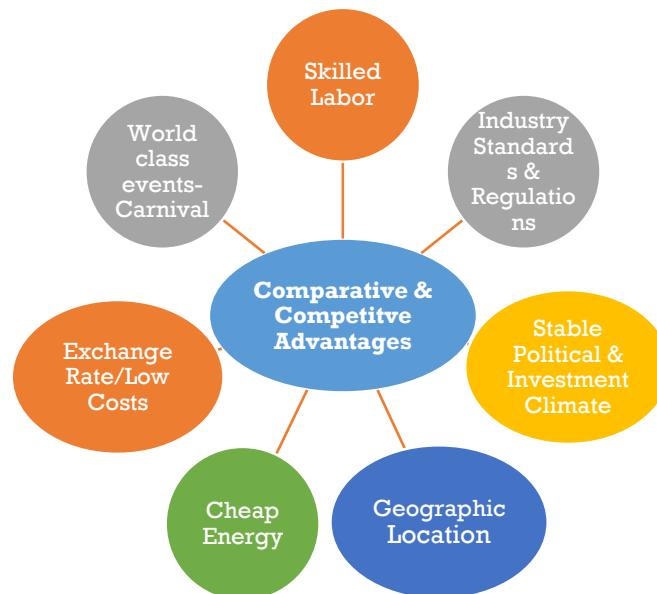
Category one arrivals tend to be highly seasonal and are often accompanied by high expenditures on sophisticated goods and services, but only very few arrivals have been recorded. In category two, charterers are mainly seasonal and exhibit high demand for quality goods and services; while category three cruisers often stay for extended periods but have limited budgets. Category four captures daily cruises, game fishing and scuba diving (Ministry of Industry and Planning, Draft Yachting Policy). The largest number of arrivals is comprised of categories three and four vessels.

Currently, the bulk of the industry's business is geared for the export market which accounts for upward of 70 percent of revenues generated ((Ministry of Industry and Planning, Draft Yachting Policy). Repair and maintenance are the major services provided (Figure 4) and accounted for US\$ 23.3 million in revenues and between 1,100 and 1,400 in direct employment (Ministry of Trade and Industry: Seven Sectors Earmarked for Development, p. 4). Data for 2006 reveals that the average length of stay for yachts visiting Trinidad was 144 days, with the majority of vessels staying for a period ranging from 30 to 180 days, while the bulk of arrivals were concentrated in the smaller categories 40-49 feet (40 percent) and less than 40 feet (Ministry of Trade and Industry, Draft Yachting Policy). Based on this profile, expanding the industry will depend largely on the ability to attract a larger number of smaller vessels for extended periods. This will require on the supply side provision of timely and high quality goods and services supported by a state-of-the-art infrastructure, including communications and technology capabilities in order to compete with regional yards.

The wider Chaguaramas area exhibits a number of comparative and competitive advantages, as depicted in Figure 5, which have resulted in the emergence of several marinas, shipyards and drydocking facilities. Its location outside the hurricane belt reduces costly hurricane insurance to "yachties" and offers almost year-round safe storage for vessels. The Trinidad and Tobago Yacht Club, the Power Boats Association, and the Trinidad and Tobago Sail Association are located at Welcome Bay- Carenage, while Chaguaramas Bay remains the hub of the yachting industry and is the designated port of entry for visiting yachts to Trinidad.

Figure 4:

Source: Authors' compilation from Ministry of Trade and Industry's Draft Yachting Policy

Figure 5: Comparative and Competitive Advantages of the Yachting Industry in Trinidad & Tobago

Source: Authors' Compilation

The growth of a marine cluster in this area has led to the development of a specialized labor pool. The country's highly educated workforce, adherence to industry standards and regulations, together with a stable political climate, favorable exchange rate (US\$ 1.00 = TT \$ 6.20), a relatively low cost of living compared to other countries in the Eastern Caribbean, and comparatively cheaper energy costs form the basis for this cluster's supply side comparative advantage.

3. 5. The Global and Regional Yachting Industry

Strategies for growing the local yachting industry and enhancing its competitiveness should be considered within the context of the regional and global yachting industries. In terms of the global leisure boat industry, the value chain involves various segments from replacement and manufacture to design and innovation which are dominated by a few players including Beneteau SA, Brunswick Corporation and Marine Products Corporation, although some new players are emerging from high growth economies such as China. Similarly, global demand for leisure boats was previously concentrated in the United States and Europe, but as these markets mature, demand is growing in other regions such as Asia — India and China (Koncept Analytics, 2013).

Trinidad and Tobago activities within this industry's global value chain would be confined to two major areas: attracting pleasure crafts and ship repair. While the global economic uncertainty curtailed arrivals to the region during the 2008-2010 period, there is some optimism that increasing demand for green tourism, growing trend for adventure holidays, and increasing leisure times and incomes, particularly in emerging economies such as China, will create the platform for rejuvenating the yachting industry. This is supported by statistics from ShowBoats International Magazine in its December 2012/January 2013 issue which shows a small but significant increase (3.9 percent) in orders of super yachts over 150 feet in length; and a 44 percent increase in orders of the mega yachts — over 250 feet in length (PRWeb, 2012). Linked to this are the top 10 global yachting destinations (Table 3) in which only two Caribbean islands, Abaco, Bahamas and Tortuga have made the list.

Table 3: Top 10 Global Yachting Destinations 2013

Abacos, Bahamas
Tortola, BVI
Boracay Island, Philippines
Cuba
Mahe, Seychelles
Palermo, Italy
Cyclades, Greece
Baja, Mexico
Tonga
Bay of Islands, New Zealand

Source: Travelzinc.com

Regionally, several countries are poised to take advantage of this turn around in the yacht tourism and services market. As Table 4 shows, Dominican Republic, the Bahamas, St Lucia, Grenada and Curaçao have built new marinas; while renovation of existing facilities in St Lucia, St Thomas and St Maarten will likely intensify competition to attract arrivals in all four segments.

Table 4: Regional Competitors

Location	Competitive Advantage
Dominican Republic	Construction of New Marina
The Bahamas	Construction of New Marina
St Lucia	Construction of New Marina
Grenada	Construction of New Marina
St Maarten	Upgrade of Marina
St Lucia	Upgrade of Marina
St Thomas (BVI)	Upgrade of Marina
Grenada	Lower cost & efficient ship repairs
St Vincent	Lower cost & efficient ship repairs

Source: Authors' Compilation based on Ministry of Trade and Industry Draft Yachting Policy

Trinidad and Tobago will face competitive pressures not only from regional players based on new or upgraded facilities, but also from pricing and quality standpoints. Currently, several ship repair

yards in Chaguaramas are virtually empty, although this is the hurricane season. One reason advanced is that these yards are facing strong competition from Grenada and St. Vincent, both located relatively below the hurricane belt but whose competitive advantages lie in their quality work and attractive pricing structures relative to Trinidadian yards.³

In terms of supply side advantages, key factors such as location, competitive exchange rate, labor, and infrastructure must be complemented with policies to develop excellent marinas, along with training and certification programs that ensure quality, timely delivery of goods, and services. Related policies affecting the tourism sector and the yachting segment in particular must be revisited. These include strategies to minimize the impact of crime and piracy, promotion of recreational facilities for yachting tourism, more diversified promotion of the country's unique culture and festivals using both conventional and new social media channels, and more effective marketing of the country's diverse and pristine natural attractions and ecosystems. Additionally, better facilitation measures particularly in areas such as provision of short term insurance and health coverage and simplifying customs and immigration procedures can contribute positively to build a competitive advantage in this industry.

4. The Demand for Ship Repairs/Drydocking and Yachting Services

The demand for ship repair and yachting services usually stems from pre-planned routine maintenance and repair. Such routine check-ups are necessary to ensure that vessels are safe for sailing and in optimum operating condition. This demand is also driven by the strict requirement for vessels to have regular inspections to meet international standards and is usually required every five years. It is important to note that such repairs are pre-planned and therefore vessel owners have considerable freedom in choosing a repair/dry dock. Considerations such as the owner's convenience, together with price and quality and the time taken to carry out the repairs will influence the choice of repair yard.

Unforeseen breakdowns and accidents result in unscheduled repairs. Given that these events are not predictable and the owner has little choice, location becomes the driving demand factor regardless of

price or quality. Unscheduled repairs can also arise from random inspection carried out by port authorities. This can result in vessels being detained until the repair works are carried out. Owners have no choice but to use the available ship repair yards. Also an unscheduled repair can arise from the sale of second hand vessels where the transaction usually requires that sellers have carried out some repair work recently. The size of the second hand vessel market can then influence demand for ship repair services.

Assessing the future demand for ship repair services is therefore difficult, as a significant portion of this demand is unscheduled and depends on exogenous factors. However, when these are linked to yachting, the choice of repair yards is determined largely by destination. Therefore, the ability to attract yachters to Trinidad and Tobago will be a key consideration for growing both industries. Trinidad and Tobago recorded 709 yacht arrivals in the first quarter of 2011, which represented a 29.4 percent increase over the first five months of 2010 (Ministry of Finance, Review of the Economy, 2011, p. 22). While the data does not identify the size of yachts, there are indications that the recent initiatives may be focused on targeting super and mega yachts.

Building market share in this industry by targeting super or mega vessels will be difficult since the country currently has seven boatyards with capacity to accommodate 885 visiting yachts (Ministry of Trade and Industry, Seven Sectors Earmarked for Development, p. 4). Since the bulk of arrivals are concentrated in the smaller yacht categories, policies should target specific demographics such as foreign and local retirees, adventure seekers, Diaspora, and group tours.

Stimulating demand, particularly as regional competitors gain ground, will require specialized services tailored to each target group. These would include health and insurance services, entertainment and recreational services, efficient ground transportation and hotel services, as well as amenities including sporting, food and banking, and telecommunications. Growing the yachting cluster would also benefit from attention to "softer" inputs such as more professional attitudes to work, customer-centered labor force, and more specialized, proficient labor.

Currently, cruising restrictions are in force which necessitates customs checks if moving from one mooring to another between Trini-

dad and Tobago. Immigration procedures and policies are also deemed inefficient and at times cumbersome. These policies must be revamped and streamlined, while training in areas such as customer relations, complaint processing, together with basic knowledge of local culture, festivals, laws, and geography can enhance visitors' experience and result in "word of mouth" marketing among the yachting community.

Since yachting is one segment of the tourism sector, initiatives for differentiating the tourism product such as marketing of festivals and local cultural events; highlighting the country's diverse natural environment, and promotion of local sporting events must be intensified. However, supporting infrastructure and amenities that are specific to the yachting community must also accompany broader tourism policies.

5. Conclusion

This article highlights the importance of diversification in the Trinidad and Tobago economy where the government has identified the maritime sector as a key facilitator in the diversification thrust. Currently, the key activities of the maritime industry are ship repair, dry-docking, and storage and yachting. However, in order to grow these clusters, higher value activities must be created in their respective value chains. Using a global value approach, we argue that on the supply side several comparative advantages exist that can be transformed into competitive advantages to maintain and increase demand from target markets domestically, regionally, and internationally. The preceding analysis suggests that in the short term, keeping and expanding market share in already established activities should be a priority. In the case of ship repair and dry-docking, this will entail increasing capacity to accommodate a larger number of vessels, while providing quality services at competitive prices. With respect to yachting services, the emphasis should be on attracting a larger number of smaller vessels, while building the necessary infrastructure and developing policies to attract the super and mega yachts.

As the government moves to introduce policies to grow the ship repair and yachting segments, some key issues should be considered. Overall, the sector will benefit from greater private sector investment which may be stimulated by more targeted government incentives and

policies. Subsidies on facilities and equipment will be important push factors for this sector. Similarly, targeted investment by the government in maritime skills training as well as in related fields including welding and fabrication, marine inspection, health and safety, and blasting and painting will provide the quality inputs in the numbers required to grow these clusters. Additionally, training in international maritime and marine-related certification to ensure that related and supporting firms in these clusters conform to international standards and regulations will provide the platform for internationally standardized work of requisite quality. Furthermore, labor costs and timeliness of work must be addressed if Trinidad and Tobago is to compete with neighboring Grenada and St Vincent for the same markets.

Capacity remains a major constraint to these industries in terms of the number and quality of workers, and the ability of yards to accommodate a large number of vessels at a given time. Additionally, the infrastructural and amenities frameworks needed to support the yachting community are either absent or require upgrading. These must be given urgent priority in order to make any impact in the medium term. Finally, growth of the marine sector must be viewed as part of a larger diversification thrust in which policies targeted to key sectors such as energy, tourism, and manufacturing can likely impact the performance and sustainability of the maritime sector.

ENDNOTES

1. There are Merchant Marine; Yachting; Fish and Fish processing; Music and Entertainment; Film; Printing and Packaging and Food and Beverages.
2. This article adopts the definition used by ECLAC- seaworthy vessel in excess of five meters, propelled by motor or sail and categorized a private or charter vessel, mostly used for pleasure.
3. Interview with Production Manager of major ship repair yard in Chaguaramas.

REFERENCES

Alkins-Koo, Mary. (2005) Case Study - Chaguaramas Peninsula. BIOL 2461, University of the West Indies, St. Augustine, Trinidad and Tobago. Available from <http://www.scribd.com/doc/19552645/Chaguaramas-Peninsula-Case-study>.

Caribbean Development Bank (2013) *Annual Report 2012*. CDB, Wilkey, St Michael, Barbados. Available from <http://www.caribank.org/uploads/2013/01/AR2012.pdf>

Central Bank of Trinidad of Trinidad and Tobago (2012) *Annual Economic Survey 2011*.

Community of European Shipyards' Association (CESA) Annual Report 2010-2011. Brussels, Belgium. Available from http://www.cesa.eu/presentation/publication/CESA_AR_2010_2011/pdf/CESA%20AR%202010-2011.pdf.

De Gannes, W., and Persad, A. (2010) Development of Shipbuilding and Ship Repair Industry in Trinidad and Tobago, IEM 2010 Conference of Fostering Engineering Networking, Collaboration and Competence.

DiscoverTnt.Trinidad: The Regional Business Center. Available from <http://www.discovertnt.com/articles/Trinidad/Trinidad-Business-&-Economy/62/3/17>

Koncept Analytics (2013) *Global Leisure Boat Market Report: 2013 Edition*. Available from <http://www.slideshare.net/prkonceptanalytics/global-leisure-boat-market>

Ministry of Finance (2012) Review of the Economy 2011: From Steady Foundation to Economic Transformation. Available from <http://www.finance.gov.tt/content/Review-of-the-Economy-2011.pdf>

Ministry of Planning and the Economy (2011) *Medium-Term Policy Framework 2011-2014*. Government of the Republic of Trinidad and Tobago.

Ministry of Trade and Industry (2008) A Strategic Plan for the Development of the Merchant Marine Industry. Available from <http://www.tradeind.gov.tt/LinkClick.aspx?fileticket...tabid=180&mid>

Ministry of Trade and Industry (2009) Draft Yachting Policy of Trinidad and Tobago

Ministry of Trade and Industry (undated) Seven Sectors Earmarked for Development. Available from <http://www.ttmissionsnigeria.com/trade/SevenSectors.pdf>.

Organization for Economic Co-operation and Development (2008) The Interaction Between the Ship Repair, Ship Conversion and Ship Building Industries. Available from <http://www.oecd.org/sti/ind/42033278.pdf/>

PRWeb (2012) Economic Sector News: Large Yacht Orders Highlight 2013 Global Order Book from Boat International Media. December 3. Available from <http://www.prweb.com/releases/2012/12/prweb10164851.htm>

Travelzinc.com. Top 10 Sailing Spots of the World: Favorite Destinations of Yachter. Available from <http://www.travelzinc.com/top-10-sailing-spots-of-the-world-favorite-destinations-of-yachters/>

Trinidad & Tobago Shipbuilder & Repair News, 2008. Newsletter. <http://issuu.com/shipbuildingandrepair#!>