



## SMALL PORTS: THE VITAL ROLE IN GLOBAL TRADE NETWORKS

**RICARDO LUIZ VON SÖHSTEN PEREIRA**

BRAZIL

**2025**

SMALL PORTS: THE VITAL ROLE IN GLOBAL TRADE

NETWORKS

RICARDO LUIZ VON SÖHSTEN PEREIRA

BRAZIL

## INTRODUCTION

Port activities generate substantial economic benefits for countries by facilitating wealth transfer and creating employment opportunities. Maritime transport accounts for over 80% of the global volume of goods traded (UNCTAD). It serves as a critical link connecting continents, cultures, and populations, while also underpinning diplomatic and commercial relations between nations. As highlighted by Ban Ki-moon, former Secretary-General of the United Nations, maritime transport constitutes the backbone of global trade and the world economy (UN, 2016). Given these factors, the maritime sector demands rigorous and multidimensional analysis, particularly regarding the integration of small ports within this highly lucrative market.

In the context of the persistent expansion of international trade, the strategic roles of ports, especially smaller ones, are often underestimated. Large ports dominate the global maritime landscape due to their superior infrastructure, capacity to accommodate mega-vessels, and ability to manage high cargo throughput. However, smaller ports play a critical role in regional trade dynamics, frequently functioning as pivotal gateways for the distribution and aggregation of local and regional goods. Through these functions, they sustain vital links within the complex global trade network.

The significance of small ports extends beyond their immediate operational functions. They generate profound socioeconomic benefits for local communities. In countries where maritime cargo flows are heavily concentrated in a limited number of major ports, pronounced regional economic disparities may arise. Wealth and industrial activity tend to cluster around these hubs, as large corporations seek logistical efficiencies such as reduced inland transportation costs. While this concentration may yield short-term economic gains, it poses long-term risks to both regional economies and the broader global trade system. The overconcentration limits infrastructure diversification, leading to physical and operational bottlenecks that can diminish the efficiency and resilience of global supply chains.

Despite their comparatively modest scale and visibility, small ports are indispensable components of international supply chains. Their distributed presence enhances the flexibility and redundancy of maritime logistics networks. As global trade evolves in complexity, comprehending the contributions of small ports is essential for appreciating the full spectrum of interdependencies characterizing the international maritime system.

This study aims to elucidate the operational advantages and structural challenges faced by small ports, as well as to evaluate strategic approaches they may adopt to sustain competitiveness and relevance amid the rapid transformation of the global shipping industry.

## PART CLASSIFICATION

Port can be classified according to various criteria, depending on the purpose of the analysis (logistical, economic, geographic, or operational). Below is the classification based on infrastructure and Capacity.

Category	Annual Cargo volume	TEU Throughput	Draft (Depth)	Example Ports
Mega Port	>100 million tons	> 10 million TEUs	> 15 meters	Shangai, Singapura, Rotterdam
Large Port	30-100 million tons	2-10 million TEUs	12-15 meters	Hamburg, Los Angeles
Medium Port	5-30 million tons	500.000-2 million TEUs	10 – 12 meters	La Havre, Santos
Small Port	< 5 million tons	< 500.000 TEUs	< 10 meters	Local and regional terminals Recife

Table 1: Port Classification by Infrastructure and Capacity

TEU: Twenty-foot Equivalent Unit, a standard measure for container volume.

Draft: Refers to the water depth required to accommodate different ship sizes.

Cargo Volume: Includes both containerized and bulk cargo.

## SHIP CLASSIFICATION

Ships can be classified according to cargo type, purpose, size, and area of navigation, among other factors. Below is the classification based on size.

Ship Class	Deadweight Tonnage (DWT)	Typical Use
Small Vessel	Up to 10,000 DWT	Coastal trade, short-sea shipping, small ports
Handysize	10,000 – 40,000 DWT	Dry bulk cargo, general cargo, flexible port access
Handymax / Supramax	40,000 – 65,000 DWT	Bulk carriers for coal, grain, minerals
Panamax	Up to ~ 80,000 DWT	Max size for old Panama Canal (294 m X 32,3 m X 12 m)
Post-Panamax	80,000 – 120,000 DWT	Too large for old Panama locks, fit new locks
Capesize	120,000 – 200,000 DWT	Too large for canals; routes around Capes (horn, Good Hope)
Very Large Crude Carrier (VLCC)	200,000 – 320,000 DWT	Crude oil transportation
Ultra Large Crude Carrier (ULCC)	320,000 + DWT	Massive crude carriers, rare due to port limitations
Malaccamax	~300,000 DWT (max for Strait of Malacca)	Oil and Bulk routes Asia-Middle East
Suezmax	~160,000 DWT (max for Suez Canal)	Tankers optimized for Suez Canal dimensions
Seawaymax	~10,000 DWT (max for Saint Lawrence Seaway)	Great Lakes region

Table 2: Ship Classification Based on Size

*DWT (Deadweight Tonnage): The total weight a ship can carry, including cargo, fuel, crew, provisions, etc.*

*LOA (Length Overall): Total length of the ship.*

*Beam: Width of the ship at its widest point.*

*Draft: Vertical distance between the waterline and the bottom of the hull.*

## KEY CHARACTERISTICS FOR SMALL PORT COMPATIBILITY

- Shallow draft: Typically < 10 meters
- Short length overall (LOA): Preferably < 180 meters
- Good maneuverability
- Low height (air draft) for bridges and port cranes
- Low berth pressure: Lighter tonnage means lighter dock stress

For small ports, ships must have dimensions compatible with shallow draft, short quays, and limited infrastructure. Therefore, only smaller vessels are considered viable.

<b>Vessel Type</b>	<b>Length (LOA)</b>	<b>Beam (Width)</b>	<b>Draft</b>	<b>Deadweight (DWT)</b>	<b>Typical Use</b>
<i>Small General Cargo Ship</i>	<i>60 – 120 m</i>	<i>10 – 18 m</i>	<i>4 – 6 m</i>	<i>2,000 – 10,000 tons</i>	<i>Transport of various goods (grain, wood, etc.)</i>
<i>Feeder Container Ship</i>	<i>80 – 130 m</i>	<i>15 – 22 m</i>	<i>5 – 6 m</i>	<i>up to 10,000 tons</i>	<i>Short-sea container transport</i>
<i>Mini Bulk Carrier</i>	<i>70 – 120 m</i>	<i>13 – 20 m</i>	<i>5 – 6 m</i>	<i>3,000 – 12,000 tons</i>	<i>Transport of dry bulk cargo</i>
<i>Coastal Tanker</i>	<i>70 – 130 m</i>	<i>12 – 20 m</i>	<i>4 – 6 m</i>	<i>3,000 – 8,000 tons</i>	<i>Transportation of liquid cargo (oil, chemicals)</i>
<i>Offshore Support Vessel (OSV)</i>	<i>60 – 90 m</i>	<i>14 – 20 m</i>	<i>3 – 5 m</i>	<i>1,000 – 6,000 tons</i>	<i>Offshore oil/gas support</i>
<i>Small Passenger Ship/Yacht</i>	<i>30 – 150 m</i>	<i>8 – 20 m</i>	<i>3 – 6 m</i>	<i>Varies (lightweight)</i>	<i>Tourism, inter-island transport</i>
<i>Landing Craft</i>	<i>30 – 90 m</i>	<i>6 – 15 m</i>	<i>1.5 – 3.5 m</i>	<i>500 – 2,500 tons</i>	<i>Vehicles and cargo in shallow or undeveloped ports</i>

Table 3: Classification focusing on ship sizes suitable for small ports

## COMMON USE OF SMALL PORTS

- Island logistics
- Coastal trade / cabotage
- River or lake navigation
- Secondary ports or feeder routes

## UNIQUE ADVANTAGES OF SMALLER PORTS

- Localized services.
- Flexibility.
- Ability to cater to niche markets.
- Benefits for the local population.
- Low occupancy rates.
- Enabling Specialized Operations.
- More affordable port tariffs.

The unique advantages inherent to smaller ports are frequently underappreciated, yet these facilities possess distinctive characteristics enabling them to fulfil specialized functions within the global maritime trade network. One of the most salient benefits is their strategic

geographic positioning. Small ports are often located in proximity to specific industrial clusters or agricultural production areas, enabling substantial reductions in both transportation costs and transit times. Such locational advantages are particularly critical for handling cargo types with stringent requirements, such as natural resources, perishables, or time-sensitive commodities, that demand rapid processing and minimal delay. This operational efficiency allows small ports to effectively serve specialized economic sectors, thereby reinforcing their integral role within regional supply chains.

Beyond locational advantages, smaller ports exhibit heightened operational flexibility and the capacity for personalized service delivery. Unlike larger, more standardized port complexes often constrained by rigid protocols and uniform procedures, smaller ports can swiftly adapt to the evolving logistical needs of shippers and consignees. Their ability to provide bespoke services tailored to client-specific demands not only optimizes operational performance but also fosters enduring business relationships. This client-centric approach appeals particularly to firms requiring more responsive, customized logistics solutions. Consequently, the provision of flexible, cost-effective, and timely services often confers a competitive advantage on smaller ports in markets where agility and customer service quality are paramount.

Additionally, smaller ports frequently demonstrate greater resilience in addressing unanticipated vessel contingencies, such as mechanical failures or regulatory inspections. These ports generally possess the capacity to accommodate vessels for necessary repairs or certification renewals without inducing significant disruption to the broader supply chain. Conversely, operational interruptions at major ports can propagate delays across interconnected global logistics networks, amplifying the systemic impact of such events.

Small ports also distinguish themselves through niche specialization. Many focus on handling specific cargo categories, such as bulk liquids, solid minerals, or other specialized commodities, investing in dedicated infrastructure and equipment tailored to their clientele's unique requirements. This specialization not only enables the provision of services beyond the scope of larger, generalized ports but also cultivates a loyal customer base through reliable, expert handling of specialized shipments. The targeted nature of these operations drives repeat business from customers with complex logistical needs.

Certain cargo types characterized by relatively low volumes necessitate specialized logistical strategies to maintain economic viability in import/export operations. For such commodities, especially those with intermittent or fluctuating demand, smaller ports serve as critical nodes. Their capacity to offer less congested berthing schedules and reduced port congestion mitigates the risk of demurrage fees, charges imposed when vessels exceed their allotted port stay during loading or unloading. Utilizing smaller ports can therefore optimize operational cost structures for shippers handling low-frequency or volume-sensitive cargo.

The benefits of small ports extend beyond cargo handlers to include shipowners, charterers, and local communities. For instance, vessels arriving at final destination ports with expired certification may encounter difficulties in obtaining timely berth allocation, particularly at congested major hubs with limited inspection resources and competing priorities. This challenge is exacerbated during regional strikes or logistical bottlenecks, often forcing vessels to

anchor offshore, incurring costly delays and potentially jeopardizing the availability of critical raw materials for downstream production. In contrast, smaller ports, due to lower berth occupancy and reduced congestion, can often provide expedited access for certification renewal and vessel servicing, thereby minimizing operational downtime and facilitating smoother supply chain continuity.

Furthermore, the socio-economic impact of small ports on surrounding communities is significant. In many large nations, the concentration of cargo throughput at major ports can exacerbate regional economic disparities, as wealth and industrial activity become localized around these hubs, largely due to logistic advantages such as reduced inland freight costs. While such concentration may yield short-term gains, it risks long-term inefficiencies and structural constraints, including infrastructural bottlenecks that hinder overall supply chain performance. Small ports serve as critical counterbalances by promoting diversification within port infrastructure and enhancing logistical redundancy. This diversification helps alleviate congestion and infrastructure strain at major ports and provides a “relief valve” during transient demand surges.

An illustrative example occurred in Brazil in 2024, when a significant increase in sugar exports was observed. Adverse climatic conditions in India, the second-largest sugar producer and primary consumer, and a shift in Brazil's export market toward Indonesia, the new largest importer surpassing China, created a surge in demand. Smaller Brazilian ports were instrumental in accommodating this spike. For instance, Recife Port handled 185,425 tons of bulk cargo in the first half of 2024 compared to 85,912 tons in the corresponding period in 2023. Bagged sugar throughput reached 136,697 tons by July 2024, up from 96,284 tons in 2023 (Recife Port Authorities). This case underscores the vital role smaller ports play in managing short-term fluctuations in global trade demand, thereby contributing to supply chain stability and resilience.



Image 1: Sugar operation at recife port. Source: Recife port website

In addition to easing operational burdens on major ports, small ports play a crucial role in supporting local economies and fostering community development. A noteworthy example is found in Pernambuco, Brazil, where the ports of Recife and Suape have actively contributed to regional growth not only through logistics operations but also via targeted social investments. In collaboration with port operators' unions, the *Formar Educational Initiative* was established to provide professional training for youth from socially vulnerable backgrounds. The program integrates both technical and socio-emotional skill development, aiming to prepare participants for entry into the labour market. This case exemplifies how ports can function as catalysts for social mobility, inclusion, and sustainable human development.

Furthermore, small ports substantially contribute to municipal revenues and the provision of public services. The port city of Antonina, located in the state of Paraná, Brazil, with a population of 18,223 (IBGE), offers a compelling illustration of this dynamic. According to the city's Department of Finance, in 2021 Antonina generated approximately USD 1.52 million in service tax revenue, of which the port sector alone accounted for USD 900,000. These funds are reinvested in critical public services such as education and healthcare, reinforcing the port's role in sustaining community welfare and improving quality of life.

Therefore, small ports should not be viewed merely as auxiliary components within national or global logistics systems. They represent strategic assets that enhance economic resilience, promote spatial equity, and generate inclusive development opportunities, elements that are increasingly essential in shaping a balanced and sustainable architecture for international trade.

Moreover, small ports frequently offer more competitive tariff structures than their larger counterparts. This cost advantage is particularly significant for businesses managing low-volume or niche shipments, for which reliance on larger, congested ports may not be economically viable. By offering lower port fees and reduced ancillary costs, smaller ports help minimize the overall logistics cost structure. This enables exporters and importers to enhance profitability or offer more competitive pricing in the market. Consequently, shippers can coordinate logistics operations in which a single vessel delivers goods to multiple regions or diverse recipients, thereby optimizing both cost efficiency and service reach.

## CHALLENGES FACING SMALLER PORTS

- Sustainability
- Infrastructure challenges
- Cargo concentration in major ports

It is undeniable that small ports face significant challenges across multiple domains. These ports typically handle limited cargo volumes and, as a result, often fail to generate sufficient revenue to ensure financial self-sufficiency or to support necessary investments in critical operational and infrastructural areas.

## PORt SUSTAINABILITY AND GEOGRAPHIC VULNERABILITIES

When evaluating the sustainability of port operations, geographic location emerges as a critical factor. Climate change, now widely acknowledged as a global phenomenon, has led to rising sea levels, one of its most alarming consequences. This trend poses a direct threat to coastal port cities, substantially increasing their vulnerability to flooding and other climate-related disruptions.

Some ports are situated in low-lying coastal areas, where the risk of submersion is especially pronounced. Notable examples include the Netherlands and Recife, the capital of Pernambuco state in northeastern Brazil. Both regions have developed strategic responses to confront these environmental challenges, leveraging their unique local characteristics to implement adaptive solutions.

In the Netherlands, where extensive land areas are exposed to the threat of sea-level rise, several initiatives have been launched, including the “Living with Water” project. This effort is centered on port-related research in the Dutch delta and is integrated into broader programs, such as “NXR 2024 – Designed for Extremes”, which aims to formulate strategies to mitigate the impacts of extreme climate conditions.

Within this broader context, the “Netherlands Exchange Recife Initiative” stands out as a successful example of international cooperation. This partnership between the Dutch and Brazilian governments fosters the exchange of knowledge, experiences, and technological

innovation, involving educational and research institutions from both countries. Pernambuco's participation is particularly significant, given its shared environmental vulnerabilities with the Netherlands. This collaboration demonstrates how, even in contexts of limited financial resources, joint efforts and technology integration can enhance the resilience and sustainability of port infrastructure.

## COMMUNITY ENGAGEMENT AND ENVIRONMENTAL STEWARDSHIP

The port's influence on its surrounding urban environment can also serve as a catalyst for mutual cooperation in pursuit of sustainable development. Ports and local communities can jointly identify and implement cost-effective, practical solutions to promote environmental sustainability and socio-economic resilience.

An illustrative example can be found in initiatives led by the Port of Suape in Pernambuco. Along the coast near Suape, the "Hippocampus Institute", a non-profit organization dedicated to seahorse conservation, had been struggling due to limited funding. Recognizing the ecological value of the institute's work, Suape Port established a strategic partnership to support its ongoing efforts in marine biodiversity preservation.

As part of this collaboration, Suape Port mobilized regional businesses and local citizens to become stakeholders in the conservation process. These efforts resulted in a multi-faceted support framework that includes direct funding, sponsorships, and environmental education programs. One component of the agreement includes monthly meetings between port authorities and local fishers to raise awareness about the ecological importance of seahorses within the marine ecosystem.

In addition to these direct engagements, broader public outreach and fundraising campaigns were launched to involve the wider community. For instance, posters and donation boxes were installed along highways near the port facilities, enabling drivers and passersby to contribute to the environmental preservation efforts.



*Image 2: Seahorse - hippocampus institute. Source: suape port website*

Despite having more limited financial resources, the Port of Recife actively contributes to environmental preservation through strategic initiatives. For several years, the port has maintained partnerships with local universities to promote academic engagement in the maritime sector and foster the development of sustainable technologies.

Through these collaborations, university students have the opportunity to undertake internships at the port, where they work on practical, research-driven projects. These initiatives have already yielded positive outcomes. For example, some students have developed projects tailored to the port's unique environmental and operational context. One notable achievement is the creation of a prototype vessel powered by renewable energy. This vessel is equipped with sensors capable of monitoring key environmental parameters such as water and air quality within the port area.

Furthermore, the port has partnered with academic institutions to support hands-on educational experiences, such as through the “Ciência do Mar IV vessel”, which serves as a floating laboratory. The Port of Recife provides docking facilities for the vessel, enabling students to conduct applied marine research and to develop technologies for monitoring marine ecosystems. This collaboration not only enhances scientific learning but also contributes to environmental stewardship efforts that benefit both the port and the broader community of Recife.



Image 3: *ciência do mar iv* vessel. Source: [recife port website](#)

## INFRASTRUCTURE CHALLENGES

One of the main infrastructure-related challenges faced by smaller ports is the lack of multimodal transport connectivity, such as railways and highways. These transport modes are essential extensions of port operations, enabling efficient cargo transfer between inland regions and port terminals. The absence of such infrastructure limits the logistical integration of small ports into broader trade networks.

Another critical issue is the need for regular dredging operations to increase the navigational draft. Without sufficient depth, these ports are unable to accommodate larger vessels or handle substantial cargo volumes, which restricts their competitiveness and operational efficiency.

Given these limitations, it becomes evident that active government involvement in the Brazilian logistics sector is essential, not only from an economic standpoint but also in terms of social inclusion and regional development. Stimulating the growth of underdeveloped regions would foster a more equitable and prosperous society, in line with the arguments of French economist Thomas Piketty, who asserts that “inequality is not a fate; it is the result of political and institutional choices.”

## CARGO CONCENTRATION IN MAJOR PORTS

The maritime sector plays a vital role in driving economic activity, generating employment, and supporting the financial sustainability of port cities. In this context, competition among ports to attract cargo volumes and logistics companies is inevitable. However, without adequate oversight and planning, this dynamic can result in an excessive concentration of cargo flows in a few major ports.

A clear example of this phenomenon can be observed in Brazil, where the Port of Santos, located in the Southeast region, handles nearly 29% of the country's total trade volume equivalent to USD 165.8 billion, according to the Santos Port Authority.

Cargo originating from the Central-West region, known for its strong agribusiness sector, especially soybeans and corn, is frequently exported through southern and southeastern ports, despite these being farther than alternative ports in the North and Northeast. This is largely due to better infrastructure in those regions.

To counter this imbalance, the Brazilian government launched the "Arco Norte Project", a strategic initiative aimed at developing an integrated logistics network encompassing ports, highways, and railways in the North and Northeast regions. This project enables the export of agricultural commodities from the Central-West through smaller, regionally located ports, reducing transportation distances to major international markets and lowering maritime freight costs.

As a result, these smaller ports have gained increasing relevance. According to the Brazilian Confederation of Agriculture and Livestock (CNA), in the past year, ports within the Arco Norte corridor exported 55.1 million tons of soybeans and corn, representing 34.6% of total grain exports, compared to just 13% in 2008. Furthermore, Flávio Acatauassú, president of the Amazon Basin Port Terminals and Cargo Transshipment Association (Amport), suggests that with planned investments, Arco Norte ports could handle up to 50% of Brazil's agricultural exports.

These results underscore the potential of smaller ports when supported by targeted public policies and infrastructure development. Encouraging their use helps decentralize logistics, balance regional development, and enhance Brazil's competitiveness in the global market.

## CABOTAGE SHIPPING: AN ECONOMIC AND ECOLOGICAL ALTERNATIVE

Cabotage, as defined by Brazilian Law No. 9,432/97 (Article 2, Item IX), refers to maritime navigation between domestic ports using sea routes or a combination of sea and inland waterways. It is a strategically important mode of transport in a country with over 7,300 km of coastline (Brazilian Navy).

Incentivized by Law No. 14,301 of January 7, 2022, cabotage in Brazil has seen notable growth. By 2024, it enabled a 20% increase in cargo movement via domestic shipping, according to the Ministry of Ports and Airports (MPor, 2024).

Despite the longer distances involved, cabotage remains significantly more sustainable than road transport. For example, transporting cargo from Porto Alegre (South) to Manaus (North) by road covers about 4,000 km, while the waterway route spans approximately 5,500 km. However, CO<sub>2</sub> emissions from road transport for this route are estimated at 464 kg per 1,000 TKU, whereas water transport emits only 110 kg, over 76% less. This underscores the environmental advantage of cabotage.

The multipurpose vessel Pio Grande is capable of replacing the function of approximately 715 combustion-powered cargo trucks, while emitting significantly lower amounts of carbon dioxide on round-trip routes.

Ships emit one-sixth of the greenhouse gases (GEE) produced by trucks when transporting equivalent cargo volumes.

Therefore, increasing the number and capacity of smaller ports enhances the feasibility of waterway transport, contributing to a more sustainable national logistics model.

In light of this, it can be inferred that the presence of multiple ports across different regions of the country, even small-scale ones, is of great environmental importance. Expanding port infrastructure increases the feasibility of using waterway transport, a modal option that is significantly more environmentally sustainable.



Figure 4: Proportion of gee gases emitted by a ship and by 715 trucks. Source: Author

## TOURISM-DRIVEN PORT DEVELOPMENT

Many Brazilian ports are located in coastal cities with considerable natural beauty, making them ideal for tourism. According to the Cruise Lines International Association (CLIA), each tourist disembarking from a cruise ship spends an average of USD 106 locally. For example, the city of Maceió generated approximately USD 13.7 million during the most recent cruise season, as reported by local authorities.

Tourism can thus represent a significant revenue stream for both ports and their surrounding cities. However, realizing this potential requires proper infrastructure to accommodate cruise vessels. If such infrastructure is lacking, it is essential to secure investment, whether public or private, to develop facilities that meet the standards of the cruise industry.

## MARITIME AGENTS AND SMALL PORTS

In line with the various benefits of small ports mentioned in the previous chapter, it is imperative to highlight one of the key players that makes all these positive impacts viable: the shipping agent.

The ship agent, according to the updated IMO FAL Convention, effective from 1 January 2018, sets out the following definition: "The party representing the ship's owner and/or charterer (the principal) in port. If so instructed, the agent is responsible to the Principal for arranging, together with the port, a berth, all relevant port and husbandry services, tending to the requirements of the Master and crew, clearing the ship with the port and other authorities (including preparation and submission of appropriate documentation) along with releasing or receiving cargo on behalf of the Principal."

Therefore, seeking the benefits for those he represents, he is a professional who possesses extensive technical knowledge of port operations and the bureaucratic processes specific to the region and port in which they operate, to secure comprehensive benefits for all stakeholders.

In this sense, the shipping agent serves as a hub of integrated knowledge, acting as a "catalyst" for the optimization of port activities. This is due to the fact that the agent holds crucial information for efficient logistics. For example, they possess in-depth technical knowledge regarding ships and cargo volumes that are compatible with a given port, taking into account all local technical restrictions. Additionally, they have access to a wide range of information about port tariffs and infrastructure, including berth occupancy across regional ports. This allows for more efficient vessel berthing, reducing the likelihood of extended wait times that could result in significant costs.

Moreover, the shipping agent establishes key connections between the ship's master, the crew, and the entire local port ecosystem and also serves as a point of intersection to enable ship and port operations comply with environmental regulations.

Given all the points discussed, it is clear that the shipping agent is a highly important professional in the field of logistics. By working alongside their representatives, they are able to identify tailored solutions for each vessel and, above all, leverage the advantages offered by the country's various ports, including smaller ports, which also present numerous benefits.

## FEDERATION OF MARITIME AGENTS AND SMALL PORTS

As previously discussed in this study, it is undeniable that small ports face numerous challenges, primarily due to their limited economic capacity when compared to major port complexes. Nevertheless, as demonstrated, small ports exhibit key characteristics that are vital both to the global economy and to the socio-economic development of the surrounding port communities.

**Fostering Community Engagement:** The integration of small ports with local businesses and industries represents a strategic opportunity to enhance their operational viability. Establishing cooperative relationships with regional producers and enterprises can ensure a consistent flow of goods and services, thereby maximizing the utilization of port infrastructure and reinforcing the port's role in the local supply chain.

As in any productive sector, strategic alliances and geographic positioning are critical in stimulating economic activity and delivering tangible results. Ports are no exception. It is essential to establish commercial partnerships between private sector stakeholders and port authorities in order to attract investment and promote the continuous maintenance and modernization of port facilities.

Within this framework, certain actors play a particularly significant role due to their technical expertise and operational relevance. One such example is shipping agents, who, as previously noted, are fundamental to the efficient coordination and optimization of port operations.

This underscores the importance of trade unions and federations representing these professionals, as they act as institutional advocates, safeguarding the interests of their members. These entities can be instrumental not only in attracting investments but also in providing critical political and legislative representation.

In the legislative arena, the effective representation of shipping agents through their unions and federations is essential to ensuring that the specific concerns and demands of this professional group are acknowledged and addressed. Such advocacy may contribute to the implementation of policies that incentivize maritime transport and, either directly or indirectly, support the development and competitiveness of small ports.

## CONCLUSION

In summary, although smaller ports may lack the capacity to handle the vast volumes of cargo processed by major global hubs, they offer substantial value to international trade through their strategic locations, operational flexibility, cost-effectiveness, and specialized services. These attributes enable smaller ports to carve out competitive niches that support local and regional economies. As a result, they remain vital players in an increasingly complex and dynamic maritime industry.

Despite the dominance of large ports in global shipping, smaller ports continue to play a critical role in trade networks. Responding effectively to contemporary challenges, such as the increasing size of vessels and shifting trade patterns, demands strategic planning, targeted investment, and continuous innovation. Maritime agents are instrumental in this process, providing expert coordination of vessel operations, facilitating compliance with international regulations, and optimizing port logistics. With their guidance, smaller ports can enhance operational efficiency, improve service delivery, and reinforce their relevance within the global shipping landscape.

## REFERENCES

1. *Clarksons Research – Global ship data & classifications*
2. *Drewry Maritime Research – Port Capacity and Performance Reports* <https://www.drewry.co.uk/>
3. <https://brasil.un.org/pt-br>
4. <https://deltametropool.nl/projecten/living-with-water/>
5. <https://news.un.org/pt/story/2020/09/1727312>
6. <https://share.google/5fe04oFhRea0Wpidr>
7. <https://www.cnnbrasil.com.br/economia/macroeconomia/exportacao-de-acucar-do-brasil-ate-outubro-ja-configura-novo-recorde-anual-aponta-secex/>
8. <https://www.fonasba.com/ship-agents-and-brokers#:~:text=Ship%20agent.%20The%20party%20representing%20the%20ship%27s,receiving%20cargo%20on%20behalf%20of%20the%20Principal>
9. [https://www.gov.br/portos-e-aeroportos/pt-br/assuntos/noticias/2025/02/mpor-cni-e-setor-produtivo-debatem-desenvolvimento-portuario-e-naval?utm\\_source=chatgpt.com](https://www.gov.br/portos-e-aeroportos/pt-br/assuntos/noticias/2025/02/mpor-cni-e-setor-produtivo-debatem-desenvolvimento-portuario-e-naval?utm_source=chatgpt.com)
10. <https://www.portodesantos.com.br/en/about-us/#:~:text=Santos%20is%20Brazil's%20most%20important,Brazilian%20port%20on%20the%20list>
11. <https://www.portodorecife.pe.gov.br/noticia-int.php?id=1690490078>
12. <https://www.portodorecife.pe.gov.br/noticia-int.php?id=1690490078>
13. <https://www.portodorecife.pe.gov.br/noticia-int.php?id=1723476673>
14. <https://www.portodorecife.pe.gov.br/noticia-int.php?id=1731513654#:~:text=No%20m%C3%AA%20de%20outubro%2C%20a%20opera%C3%A7%C3%A3o%20de,principais%20Pontos%20de%20escoamento%20da%20produ%C3%A7%C3%A3o%20de>
15. <https://www.suape.pe.gov.br/pt/noticias/1411-suape-e-hippocampus-em-defesa-dos-cavalos-marinhas>
16. <https://www.suape.pe.gov.br/pt/noticias/1411-suape-e-hippocampus-em-defesa-dos-cavalos-marinhas>
17. *IMO (International Maritime Organization) – <https://www.imo.org>*
18. *Klein, L. (1983). *The Economics of Supply and Demand*.*
19. *Lim, S.-M. (2011). *Economies of Scale in Container Shipping*.*
20. *Lloyd's List – Top 100 Ports* <https://lloydslist.maritimeintelligence.informa.com/>
21. *Lloyd's Register – Vessel specifications and port standards* – <https://www.lr.org>
22. *Marine Insight – Ship Size Classes* – <https://www.marineinsight.com>
23. *Marine Insight – Types of Cargo Ships* – <https://www.marineinsight.com>
24. *Perrupato, M. Seminário Internacional sobre Hidrovias Brasil – Holanda, Brasília, 2009. Disponível em:<<https://biblioteca.itl.org.br/cgi-bin/koha/opac-detail.pl?biblionumber=774>*
25. *UNCTAD (United Nations Conference on Trade and Development) – Review of Maritime Transport* <https://unctad.org/topic/transport-and-trade-logistics/review-of-maritime-transport>
26. *World Shipping Council – Port Statistics and Rankings* <https://www.worldshipping.org/>