

Port planning in Latin America and the evolution of container traffic with Asia-Pacific

This edition of the FAL Bulletin addresses port planning in Latin America and delivers an initial forecast on container traffic between Latin America and Asia-Pacific through 2015. This bulletin also summarizes the principal conclusions of the Expert Workshop organized by the Unit of Infrastructure Services, in conjunction with ESCAP and the Korea Maritime Institute (KMI) in October 2009, in Panama. The author of this bulletin is Octavio Doerr. For further information, please contact trans@eclac.org

I. Introduction

A **Workshop on Container Port Planning Techniques**, was held on 20 and 21 October 2009, in Panama City, organized by the Unit of Infrastructure Services of the Economic Commission for Latin America and the Caribbean (ECLAC), the Transport Division of the Economic Commission for Asia-Pacific (ESCAP) and the Korea Maritime Institute (KMI).

The workshop was attended by port directors, from both the public and private sectors, from 10 Latin American countries: Argentina, Chile, Colombia, Costa Rica, El Salvador, Mexico, Nicaragua, Panama, Peru and Uruguay, as well as representatives from the United States and the Republic of Korea, and academics from Latin America and Europe.

The workshop covered the following topics:

- Analysis of regional and world maritime markets;
- Situation of regional ports, port activity, projects and plans;
- Review of container trade and the associated shipping service patterns between Latin America and the Asia-Pacific region, including the past situation up until the present, as well as future growth potential;
- Discussion of the tools used in the region to plan port terminals;
- Presentation of ESCAP methodology (MPPM/ITPM)
- KMI application of MPPM for container trade between Asia-Pacific and Latin America and the Caribbean.

In their discussion, the panel of port representatives and experts focused on the importance of interregional trade projections, developments in the main container shipping routes and the shipping service patterns among ports in both regions. One of the main conclusions reached was the need to assist the team of experts from ESCAP/KMI by providing complete, up-to-date, standardized statistical information regarding container movement in the main ports and in the subregions. To this end, ECLAC and the participants agreed to adopt standards and request that they be applied in the ports of Latin America and the Caribbean (LAC).

At the end of this session, the participants commended the guest countries for the technical quality of their presentations, the main focus of which was the progress made thus far in researching the potential future evolution of trade between the Asia-Pacific region and Latin America and the Caribbean, the container service patterns between both regions and other topics of interest.

Based on the comments made by participants, it is clear that port activity is becoming increasingly more important for the transport chain and the distribution of production and trade in all the region's countries, and special attention should be given to rapid technological advances and growing interport competition, which make strengthening the capacity for regional port planning a necessity. Adequately forecasting national and

regional maritime traffic is the key to planning the most efficient and realistic port capacity possible.

This bulletin presents the main conclusions gathered from the event, as well as an analysis of the principal changes that have occurred in maritime container transport over the past decade and the impact that both regions have suffered as a result of the recent global economic crisis. It also addresses the evolution of traffic and the state of container operations in the principal LAC ports and their connection to Asia-Pacific, reviewing the methodology developed by KMI/ESCAP for analysing container traffic projections and maritime and port planning. The final section discusses container traffic forecasts through 2015 between Latin America and Asia-Pacific based on the model developed by KMI/ESCAP. It is important to point out that the values presented here are only preliminary and do not constitute official ECLAC or United Nations forecasts. Once the regional statistical information has been compiled and validated, these forecasts will be revised and published in a timely manner.

II. Effect of the global crisis on port planning

The developments of this year have dealt a major blow to the seaport sector. In addition to the hardship caused by the oil crisis at the end of 2008, the economic crisis took its toll, with its well-known effects in the sector: lower freight charges, excess fleet capacity and the postponement of many infrastructure concessions due to a lack of investors and adequate financing.

After a decade of strong growth for most of the container ports in the region, at the beginning of the world economic crisis (2008) there was significant stock in the region (also an excess supply) of projects in varying phases of development aimed at expanding ports and even building infrastructure in new locations. All of these plans were supported by port authorities, who reasoned that they would need to accommodate the additional volumes indicated in the available traffic forecasts, which were created based on the assumption that the growth rates observed in previous years would hold steady.

However, in the wake of the economic crisis, its negative effects on foreign trade and the resulting reduction in cargo volumes at regional ports, there is a pressing need to revise expansion plans, verifying the validity of the assumptions made when formulating the forecasts and the magnitude and timeliness of the proposed investments. After more than a year of crisis and its negative impact on most of the world's economies and on port activity in the region, the same high levels of growth may not be expected in regional ports, at least not in the short term.

In these circumstances, port authorities from Latin America present at the event stated the need for updated port plans that take into account the current situation and that allow for adequate, sustainable investment in order to efficiently meet the new demands of maritime trade, especially with regards to container transport.

This diagnosis poses new challenges for the region's port authorities, but also reflects the need to conduct a systemic regional and subregional sector analysis, including demand and traffic assignment in ports that compete in the same sphere of influence, and shipping service trends on both South American coasts, in the Caribbean and in Central America, taking into account the future expansion of the Panama Canal. This would facilitate the analysis of common policies, such as those pertaining to shipping services that cover several ports, the best strategy for developing the port supply in a subregion, or the expected evolution of trade in a hinterland shared by two or more ports.

III. Analysis of the evolution of container flows between Latin America and the Caribbean and the Asia-Pacific region

Over the last two decades, global trade, including trade in the Asia-Pacific and LAC regions, has grown steadily. The evolution of seaborne container transport during that period forced ports to adapt available infrastructure and incorporate specialized equipment in order to accommodate a growing number of container vessels, which were also growing in size. So, for over two decades, international container trade continued to rise at an average rate that far exceeded the growth rate of maritime trade,

and the ports of the main economies were adapting to the new requirements of container shipping services.

East Coast of South America (ECSA) and Asia-Pacific containerized traffic

Total ECSA container trade in 2008 consisted of approximately 5.9 million TEU, with 3.6 million TEU of exports and 2.2 million TEU of imports. The Asia-Pacific region represents 16% of exports and 34% of imports. Over the last eight years, exports rose at an average annual rate of 7.5% and imports at an average rate of 7.8%. Exports to Asia rose at a much faster rate of about 11.8% per year and imports at an annual rate of over 14%, as seen in table 1.

Table 1. Container traffic – East Coast of South America (Thousands of TEU)

Movements	To or from	2000	2002	2004	2006	2008	2000 to 2008 Annual average rate (%)
Exports	To all countries	2,028	2,461	3,141	3,502	3,629	7.5%
	To Asia-Pacific	241	331	429	500	587	11.8%
Imports	From all countries	1,245	876	1,288	1,689	2,263	7.8%
	From Asia-Pacific	274	173	333	557	779	14.0%

Source: ECLAC/Global Insight 2009

The growth of container imports has not been constant and has been affected by economic crises. During the Argentine crisis, in 2001 and 2002, imports fell in Argentina, Brazil, Uruguay and Paraguay, while during the rest of the period both exports and imports rose in those countries, registering a 70% increase in 2004. The initial reports from 2009 show an increase compared to 2008 for container exports as well imports. Table 2 shows the evolution of container exports and imports in ECSA countries during 2000-2008.

Table 2. Cargo containers by country – East Coast of South America (Thousands of TEU)

Movements	Country	2000	2002	2004	2006	2008	Average rate 00-08
Exports	Argentina	416	496	534	631	708	6.9%
	Brazil	1,522	1,878	2,486	2,716	2,757	7.7%
	Uruguay/Paraguay	90	87	122	155	165	7.8%
	Total ECSA	2,028	2,461	3,141	3,502	3,629	7.5%
Imports	Argentina	367	148	317	422	549	5.2%
	Brazil	752	617	838	1,105	1,511	9.1%
	Uruguay/Paraguay	125	111	133	162	204	6.3%
	Total ECSA	1,245	876	1,289	1,689	2,263	7.8%

Source: ECLAC/Global Insight

Table 2 shows that ECSA annual growth rates for imports transported in containers have experienced sustained growth throughout the period. Brazil shows the highest average annual growth rate at 9.1%. In 2008, Brazil accounted for 67% of the imports of ECSA and Argentina accounted for 24% of that market. Despite the international crisis, all the ECSA countries showed strong positive growth for imports in 2008, with Brazil achieving a 13.8% growth rate. Table 2 shows that Brazil accounted for approximately 76% of ECSA exports in 2008, Argentina 19% and Uruguay and Paraguay about 5% apiece.

As shown in table 3, in 2006, imports from Asia-Pacific to ECSA exceeded exports to that region. Imports from Asia-Pacific have increased in terms of their share every year since 2004, reaching 57% of the total in 2008. In 2008, Brazil accounted for 68% of imports and 78% of exports on the Asia-Pacific route.

Table 3 Cargo containers – East Coast of South America – Asia-Pacific Route (Thousands of TEU)

Movements	Country	2000	2002	2004	2006	2008	Average rate 00-08
Exports	Argentina	45	62	64	86	96	10.1%
	Brazil	187	258	349	387	462	12.0%
	Uruguay/Paraguay	10	11	17	27	29	15.0%
	Total ECSA	242	331	429	500	587	11.8%
Imports	Argentina	83	22	76	132	197	11.4%
	Brazil	160	133	229	384	530	16.2%
	Uruguay/Paraguay	31	18	28	41	52	6.7%
	Total ECSA	274	173	333	557	779	14.0%

Source: ECLAC /Global Insight

As of December 2008, 47 shipping services are estimated to operate in ECSA, with a total of 271 assigned vessels and a nominal annual capacity of approximately 5.7 million TEU. In December 2008, only eight shipping services were operating between ECSA and Asia-Pacific with 79 vessels assigned to those services, with a nominal annual capacity of approximately 1.2 million TEU, equalling 22% of the total capacity of container vessel services on all ECSA routes.

West Coast of South America (WCSA) and Asia-Pacific containerized traffic

WCSA container trade in 2008 was 3.4 million TEU (loaded). Exports totalled 1.7 million TEU, and imports totalled 1.7 million TEU. The Asia-Pacific region accounted for 16% of WCSA exports and 38% of WCSA imports.

During the 2000-2008 period, total WCSA exports rose at an annual rate of approximately 8.3% and imports at a rate of 10.6%. Exports to Asia rose at a faster rate than total exports, approximately 8.6% per year, and imports at a higher annual rate of 14.7% (see table 6).

Table 6 WCSA – Cargo containers (Thousands of TEU)

Movements	To or from	2000	2002	2004	2006	2008	Average 00-08
Exports	All countries	889	994	1,265	1,546	1,685	8.3%
	Asia-Pacific	142	135	204	235	274	8.6%
Imports	All countries	771	839	1,025	1,354	1,728	10.6%
	Asia-Pacific	217	260	325	498	651	14.7%

Source: ECLAC/Global Insight 2009; SPRBUN

Table 6 shows that growth in container imports remained consistently high throughout the decade. Table 7 shows that Colombia (Buenaventura) registered a high average annual growth rate of 14.4%, Chile and Ecuador a rate of 10.2% and Peru, 9.5%. Chile accounted for 36% of WCSA imports, Peru 27%, Ecuador and Bolivia 21% and Colombia (Buenaventura) 14%.

Table 7 WCSA – Cargo containers by country (Thousands of TEU)

Movements	Country	2000	2002	2004	2006	2008	Average 00-08
Exports	Colombia Pacific	69	84	104	109	110	6.1%
	Chile	475	514	733	895	988	9.6%
	Ecuador/Bolivia (Plur. State of)	239	257	265	303	330	4.1%
	Peru	106	138	163	238	257	11.7%
	Total WCSA	889	994	1,264	1,546	1,685	8.3%
Imports	Colombia Pacific	98	117	166	241	288	14.4%
	Chile	282	297	344	471	614	10.2%
	Ecuador/Bolivia (Plur. State of)	163	181	216	286	355	10.2%

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