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## STRATEGIC VISION FOR PORTS: THE YEAR 2010

This month's FAL leading article is Larry Burkhalter's swan song as a United Nations staff member. Larry has served ECLAC and the UN for more than 22 years and has been the Commission's guiding light in maritime transport and port issues for the most part of that time. He retires on 1st June 1999 and leaves behind in the ECLAC Transport Unit not just Colleagues but genuine friends. We are sure that you, the FAL readers, will join with us in wishing him all the best in the next phase of his life.

In 1952, I was dropped off outside a port warehouse and told to sell newspapers to the sailors on board the vessels. As I walked through the warehouse the penetrating odors of vanilla beans, curry, brown sugar and coffee beans, and the sounds of seagulls, winches and men working had a transforming impact on my 13 year-old mind. I stopped to smell the vanilla beans, listen to the stories of the sailors and dreamed of going to far away, exotic places that produced these unfamiliar aromas. The sailors on those vessels carried their badges of courage, they were tanned and hardened from the strenuous work, and their ships carried those mysterious smells. At home that night, I opened my jacket and showed the long, black vanilla bean to my family that a sailor had given me.

Today, those vessels and warehouses, and smells and sounds are gone, replaced by automated cargo grouping units called marine containers, massive bulk handling systems and computers. In the mid-1970s there was a race among ports to determine which one would handle one million containers per year, but today two ports have already exceeded one million containers per month. In a world subject to perpetual technical and institutional advances, the future is not merely an extension of today. One only has to look at the predictions made during the oil crises to learn that "more-of-the-same" is a dangerous way of forecasting. For example, it was widely predicted that oil prices would reach US\$50.00 per barrel by the mid-1980s, but the inability of OPEC to control production of its members led to an "oil glut" and depressed prices.

The following appreciations of possible occurrences in the maritime industry are based on my own personal experience in the industry over more than 40 years as a ship's engineer, ship's navigator, admiralty attorney and, finally, chief of the Transport Unit at ECLAC. It is impossible to say whether

these appreciations are correct or incorrect, as only time contains the final truth, but in the last two weeks before my retirement I feel inclined to take certain risks. My major purpose is to stimulate discussions of an ordered, productive and, hopefully, convergent nature. I would like to group my appreciations from the viewpoint of markets, services, technologies and the regulatory setting.

## I. MARKETS

The historical separation of national markets often allowed governments sufficient time to adopt measures that would attenuate or contain the impact of purely domestic problems of other countries. However, the joining of national markets through globalisation alters that traditional framework. The opportunities for world-wide purchase of inputs, location of factories and sales of final goods has become common, but the enormous web of funds, know-how, products and related services of a global economy can rapidly transform domestic or regional problems into those of an international nature and vice versa. There is no longer any distinction possible between the markets in developing countries and those in industrialized nations.

The globalization of the world economy will probably lead to a decreasing number of suppliers offering goods that are standardized internationally, but leading to greater competition and to a more creative utilization of national regulations to protect domestic industries. For example, raw materials and components will be transported from intermediate producers to final assembly or fabrication plants, thereby increasing the role and revenues of transport system. At the same time, competition between suppliers of standardized inputs, including port services, and sites for assembly and fabrication plants will increase, thereby benefiting end users and consumers.

In the future there will be a multiple market-product-regulation dilemma that governments must resolve; that is, markets will be increasingly open, products will be increasingly standardized and individual governments will have an ever more limited capacity to regulate trade and transport activities. Many governments will have to decide whether to mandate that their industries comply with environmental regulations or accept the risk that the World Trade Organization could foment the resolution of this dilemma by extending the general system of preferences to include the exports of nations that comply with environmental regulations. There could also be a requirement for ocean carriers to utilize ports with natural deep-water harbours because dredging to create needed depths might be limited by environmental regulations that seek to protect ground-water levels and the animal habitat.

## II. SERVICES

Private terminal operators have begun to make investments in a range of ports world-wide. Such a global reach will create a basis for port clients --exporters, importers and carriers-- to demand standard, high-quality, low-cost services. One side effect of these activities has been to bring nations, ports, users, producers and labour closer together. This means that an improvement in operations in one port or terminal will quickly be copied in many others, and increase the competition between terminal operators. The services offered by ports and carriers will approach a much more integrated systems concept.

In addition, a superior-link will be formulated which will permit all those involved in port activities to have a global view of port functions and allow them to establish entirely new efficiency parameters. The aforementioned link will permit new insights into the relation between workers,

technologies, government policies and the institutional framework. For example, newly employed professional at a port will acquire three or four major skills such as crane operation, equipment repair and electronic data interchange before being utilized in administrative, financial, planning and marketing tasks. Such a career path will provide them with an understanding of not only their own tasks but also those of investors, dockworkers and employers.

This means that a career path in the port industry begins on the docks, acquires substance as a person becomes experience and multiskilled, and renders its greatest benefits when the insights acquired through experience and training are utilized in commercial and administrative tasks. Such insights will be recognized as the key to achieving the new efficiency parameters. For example, collective agreements allow improvements in productivity only when they are periodically negotiated, instead of being means to initiate commercial gains themselves. The risk is that very few ports, unions and employers will accept the joint responsibility of long-term career development inherent in the realization of that link.

### III. TECHNOLOGY

Port modernization in the 1960s and 1970s referred almost exclusively to the construction of new infrastructure and to the acquisition of new cargo-handling equipment. Modern technologies such as cargo cranes and computers have a direct influence on the entire spectrum of commercial activities in international trade --production, distribution, advertising and sales, as well as providing a base for the growing concentration of the industry. For example, the marine container promoted an enormous increase in vessels size, from 10,000dwt to 100,000dwt, because it increased cargo-handling rates. Larger vessels have created a need for even faster loading and discharge technologies, simplified Customs requirements, electronic data interchange (EDI), larger container storage areas in order to improve returns to investors.

So important are new technologies to the maritime industry that the chief executive officer of American President Lines (APL), George Hayashi, remarked to his staff that there were no technological advances that would permit an improvement in productivity and a reduction in costs. The only remaining option would be to sell the company so as to achieve greater scale economies that reduce costs. Shortly thereafter, Neptune Orient Lines (NOL) of Singapore purchased APL for US\$825 million. As one example of a new loading and discharge technology, a container space might be created for each port-starboard row, with movement of containers inside the vessel on a moving-chain arrangement to and from such spaces. These spaces would receive from and deliver containers to shoreside cranes, thereby reducing crane travel time, and eliminating the need for ever greater crane outreach to handle vessels with progressively wider beams.

The potential impact of the computer on ports has been compared to that of the container. The reason is that the computer and EDI permit the total visibility of goods and transport equipment throughout the production and distribution chain. Total visibility permits the reduction of unproductive capital, whether in "lost containers", unused railcars, and the development of imaginative transport services. For example, multimodal services are the wave of the future, but few companies offer them because they do not wish to accept responsibility from origin to destination for goods and transport equipment that they cannot control. Computers and EDI can provide the needed tools for total visibility and control of the goods and transport equipment that would allow carriers and freight forwarders to accept such responsibility.

#### **IV. REGULATORY ENVIRONMENT**

Governments will continue to formulate and apply port regimes, but they will begin to utilize a process that has a high degree of transparency in order to avoid the influence of dominant groups. Such transparency will permit port clients, private terminal operators and the government to achieve a market-based balance between their respective interests. For example, the acquisition of modern infrastructures and technologies creates a need to reform the legislative, institutional and procedural provisions of the port regulatory framework. Governments must isolate themselves from pressure groups and compensate workers for the loss of acquired rights in order to ensure that private interests can utilize the regulations to generate new commercial opportunities.

The progressive concentration of industries has been visible since the start of the industrial revolution. Industries that were considered harmful monopolies in one era are often viewed as competitive by the standards of a later era. This has created varying definitions of monopolies, monopoly abuses and the corrective measures that should be adopted. Latin America ports are generally owned and administered by governments, while private interests are allowed to invest in and operate them. Governments have established antimonopoly commissions to avoid any abuses of market dominant positions. However, there are as many opinions of what constitutes an "abuse of a market dominant position", as there are members of antimonopoly commissions. Little is taken into account by such commission of new forms of competition such as intermodal movements, contested markets and the export of competing products to the same market.

There is a dichotomy between port technologies and their regulations that can limit productivity and increase costs. The regulatory framework for cargo-handling operations can facilitate or prevent the efficient utilization of even the most modern technologies, but such technologies cannot overcome a faulty or out-of-date institutional framework. Many private terminal operators would like to invest in equipment to improve productivity and lower costs, but governments often seek to maintain an obsolete regulatory framework in order to satisfy the demands of dominant groups. With such a framework, private terminal operators will look internally for ways to cut costs or seek subsidies from governments, or both. To facilitate the adoption of such regulations, the global economy mandates a decoupling of governments from entrepreneurial activities.

#### **V. CONCLUSIONS**

Many Latin American ports have made efforts to create a basis for private participation, but the last three decades of this century have been a tragedy for them. It was caused by a failure to answer questions such as: What are the commercial functions of governments, employers and labour in a global economy? What is the role of the public sector and of the private sector in the economic development process? What basis is necessary for shifting port operations from activity optimization to system optimization? Must ports utilize modern technologies? How can port labour be brought into the port modernization process? A new industrial cycle has commenced which will transform markets, the skills required of labour, the risk investors will face, and the types and quality of service ports will offer, but these questions remain only partially answered.

Ports which survive in the coming years will have formulated answers to the above questions and acquired the capacity to utilize a number of new tools. Some of the most important include:

1. It will come to be recognized that domestic problems are international in nature and

international problems have a domestic component. There will be no distinction between ports in developing countries and those in industrialized nations. Concepts such as labour efficiency, turn-around times, appropriate technologies, water depths, costs, and working hours will have a global reach.

2. The World Trade Organization will apply the system of preferences to the exports of countries that comply with environmental regulations.
3. Collective bargaining agreements will be much more flexible and will be utilized to initiate commercial gains. No longer will it be possible to utilize policies such as national defense to hide uncommercial collective agreement.
4. Transparency of government processes will become a key competitive tool.
5. Mere size of a shipping line or port terminal or volumes of cargoes handled will not be factors that determine whether a monopoly exists unless it acquires unless it uses its dominant position to obtain monopoly rents.
6. EDI will be reformulated not only to transmit needed information regarding trade and transport documentation but also to achieve the goal of total visibility of cargoes and transport equipment throughout the distribution process.
7. Ports will require progressively fewer workers in the future, but unions will become stronger through their recognition that commercial goals are the basis for social gains.

This paper was also presented at the Sixth Meeting of MERCOSUR's Association of Private Ports and Terminals, Buenos Aires, Argentina, 13-14 May 1999.

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